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Washington Highlights

Delving into the relationship between oil and national defense, a House Armed Service subcommittee has reported that increased use of natural gas offers the quickest and cheapest method immediately available to reduce domestic consumption of petroleum. The American Gas Association and Eastern gas leaders have called for a change in regulations which separate natural gas from areas making use of manufactured gas. The belief is held by many gas men that the sale of natural gas should not be limited to sections designated by those now using it. They have explained that manufactured gas companies in the East need to utilize natural gas in order to enrich their present artificial production.

New sections of the country daily are being introduced to the benefits of natural gas in civic and industrial life. The Federal Power Commission is understood to be deluged with requests for extension of gas pipeline systems.

An entertaining sidelight on Washington affairs was the recent vote of Capital straphangers, approving music on street cars and buses. A transit company installed FM radio receivers on one street car line and a bus route to test the reaction of the patrons. More than 90 per cent favored rhythm, provided it invoked no fare increases.

A House Armed Services subcommittee has rejected a Navy plan to transfer Naval petroleum reserves in California and Wyoming to the Interior Department. The Navy held that its reserves in San Joaquin Valley, California, and Teapot Dome, Wyoming, no longer have any military value and that the Interior Department could supervise the lands better than the Navy.

Motor vehicle gasoline consumption increased approximately 10 per cent in 1947 over 1946. According to the Federal Works Agency, state gasoline taxes were collected on 28.4 billion gallons of motor fuel during 1947, or about 2.5 billion gallons above the 1946 figure. Not taken into account was about 4.2 billion gallons of gasoline of which tax was not paid or paid at a reduced rate because the fuel was used for Government or non-highway purposes, such as agriculture or industry. California was the highest of all states in the amount of motor fuel taxed.

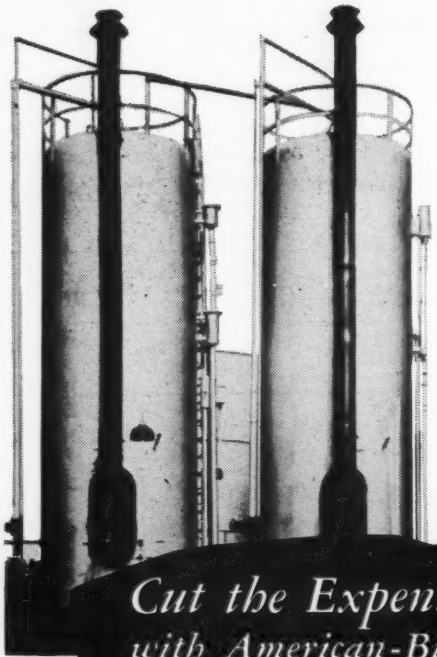
Adequate supplies of liquid fuels will be made available under terms of the amended House synthetic bill reported by the Interstate Foreign Commerce Committee. The committee's report summarized principles of the measure.

Essentially, these principles call for encouraging the production by private industry of synthetic liquid fuels from oil shale, coal and other raw materials common to the United States. They also provide for financial assistance to private industry to promote construction and operation of commercialized synthetic liquid-fuel plants as deemed necessary to furnish a basis sufficient to permit development of a synthetic liquid-fuel industry. Government financing to foster plant construction would be conducted by the Reconstruction Finance Corp.

Interior Secretary Krug has attacked the House-endorsed $375,692,591 annual appropriations bill for his department as a measure threatening the representative legislative system. Testifying before a Senate appropriation subcommittee, Krug declared limitations written in the bill by the House "would have the effect of accomplishing purposes long sought by special interests."

Due to the passage of the Republican tax-cutting bill, the Internal Revenue Bureau anticipates making withholding tax refunds of more than $2,770,000,000 for the current year. This figure, however, is tentative and may be changed as it is somewhat difficult to forecast refunds accurately under terms of the new law.

The Bureau of Mines has announced publication of a volume listing analyses of crude oils produced in approximately 85 per cent of the major oil fields in United States.



"Cut" crude means cut producing capacities of wells along with expensive cuts in the quality of both crude and refined products, and in earnings and profits. These exorbitant costs extend all the way from the well, through the refinery, pipe lines and other mediums of transportation, to the finished product.

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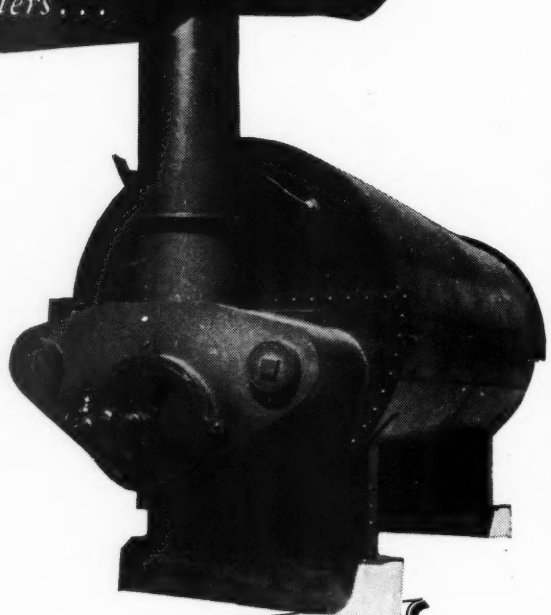

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Application of Hydraulic and Pneumatic Devices to Drilling Equipment

Abstract

Hydraulic and pneumatic devices have found widespread use in the construction of drilling equipment from the small single engine power rigs up to the largest power and steam drilling units. The use of these devices is well established and based on real needs. Some of the reasons for adapting hydraulic and pneumatic devices to drilling equipment are:

1. Safety
2. Eliminate fatigue
3. Do work not possible by manual means
4. Reduce number of men required to perform a given operation
5. Economy in original cost or maintenance.

Major Hydraulic and Pneumatic Devices

The most important functions performed by hydraulic devices on a large number of rigs are hydromatic breaking, hydraulic coupling drives to the drawworks and slush pump and torque converter drives to drawworks and special purpose pumps and in smaller numbers the new combination hydraulic torque converter and coupling on drawworks and pumps.

Important pneumatic devices on many drilling rigs are air clutches in which the air pressure forces the friction material against the driven portion, air operated drill pipe slips and in some cases air operated drill pipe tongs. Power drawworks brakes give promise of being the next major application of pneumatic and hydraulic power. Several remote controlled drawworks brakes are now depending upon these fluids for their operation.

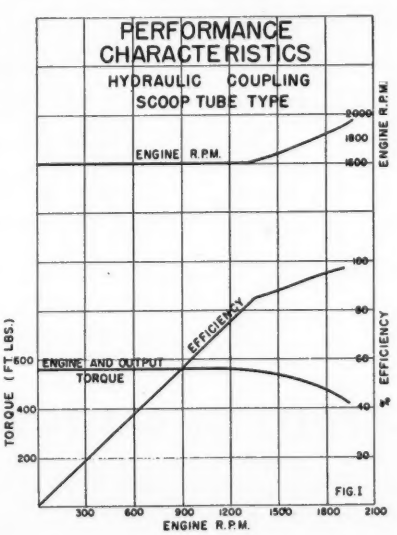
Hydromatic Brakes

One of the earliest hydraulic devices used on drilling equipment was the hydromatic brake and its use became so widespread that at one time there was hardly an operator drilling below 7,500 feet without the assistance of a hydromatic brake. This item is so well

By Nicholas A. D'Arcy
Consulting Mechanical Engineer.

known that it needs no description but an analysis of the reasons behind its success are of interest. Four of the five reasons for adopting hydraulic drives are met by the hydromatic brake. It is a safety feature as it reduces the danger of dropping the drill pipe due to overheated brakes; it eliminates fatigue as it reduces the manual effort in braking; it makes it possible to handle safely loads that could not be handled without some means of governing the speed of lowering the pipe; and it is economical. The use of this device adds to the total overall cost of a new drawworks but it reduces the down-time required for frequent changes of brake lining and brake rims and also reduces the total time required to run a long string of pipe into the hole.

In the matter of fairness, it is only right to mention the fact that there is now available an eddy current electric brake that is performing the functions so long handled by the hydromatic brake and with the added advantage that very low speeds of descent are controlled. It is practical to set the slips by control of the pipe with the electric brake alone in case of a failure in the manual brake system.



Hydro-Kinetic Drives

Hydraulic couplings, hydraulic torque converters and the combination converter and coupling comprise the hydro-kinetic drives used in drilling equipment. Hydraulic couplings are limited to the scoop tube type coupling at the present time as they are the only coupling provided with outside cooling required when a high degree of slip is necessary.

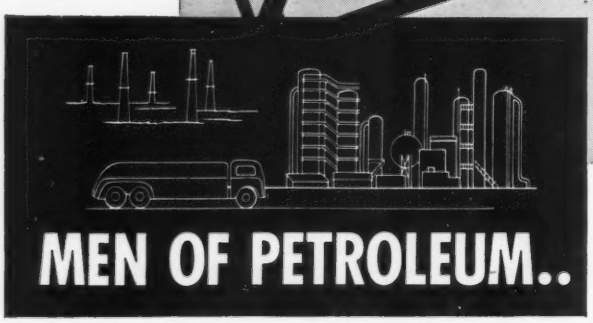
Hydraulic couplings are most satisfactory when constant speed constant torque conditions prevail in the driven machinery but the scoop tube feature makes it practical to obtain variable speeds with constant torque. A typical performance curve of an engine equipped with a scoop tube coupling is shown on Fig 1.

Hydraulic torque converters find their most efficient application on those drives requiring a wide variety of speed and torque in the driven machinery. The torque converter has a fairly uniform output horse power over a range in speeds varying from 25% to 75% of the prime mover speed but it is not efficient above or below those speeds. A typical performance curve of a torque converter equipped engine is shown in Fig. 2.

The new combination torque converter and hydraulic coupling combines many of the advantages of both although it does not have as high an efficiency at maximum output speeds as does the straight hydraulic coupling. The advantage of the combination unit lies in its greater efficiency over a wider range of output speeds than is obtained with either the hydraulic coupling or the hydraulic torque converter. A typical performance curve for an engine equipped with the combination converter and coupling is shown on Fig. 3.

Application of Hydraulic Couplings

Scoop tube hydraulic couplings are one of the few devices used on oil well drilling machinery to be pioneered in the foreign fields. The



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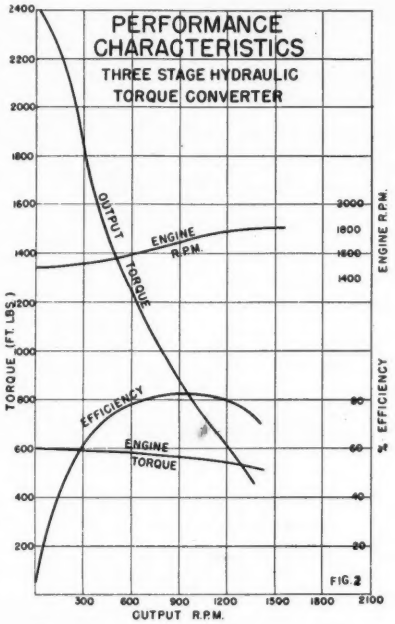
patents on this drive originated in England and the English and Dutch were quick to see its advantages in foreign operations. These operators realized that the coupling would allow them to maintain stalled pressure on their slush pumps while cementing or when endeavoring to break circulation and to maintain a stalled line pull on the casing line when fishing. In addition, the coupling would absorb many of the shock loads imposed by less skilful native crews. The coupling did its job well and made it possible to perform tasks otherwise impossible with a power rig. It is especially valuable in those fields where special service companies are not available for performing special duty operations.

The scoop tube hydraulic coupling has been accepted by many drilling companies in the United States as well as foreign operators and it is available in a range of sizes suitable for use with many of the larger drilling engines. The couplings are utilized on engines powering the drawworks alone, on independent slush pump drives and rigs driving both the drawworks and slush pumps from common engines.

Torque Converter Drives

Torque converter drives reached their early popularity on single engine drilling rigs in California, but they now find ready acceptance in Mid-Continent and foreign fields. Most of the converters are used to power the drawworks and rotary table although several are used on conventional slush pump drives and many are installed on special duty pumps. The hydraulic torque converters also allow the operator to maintain stalled pressure on his pump, stalled tension in his casing line while fishing and protects the unit from shock loads. Torque converters also allow the operator to obtain a wide variety of pump pressures or wire line pulls when using any given size of pump liner or while pulling in any given drawworks gear. This is an advantage in pumping operations in that a uniform hydraulic horse power output with a wide range in pump speed and pressure can be obtained while the engine is allowed to run at a uniform speed. The wide range of line pulls and speed obtained in a single gear allows light rig manufacturers to produce two speed drawworks with a considerable saving in weight and machinery.



One of the big advantages of a torque converter drive lies in the method of operating the drilling rig. It is proper to engage all drawworks clutches with the drawworks engines idling when torque converters are utilized. The engine throttle is then opened and the load is picked up through the torque converter with a minimum of shock. In fishing or breaking circulation, it is very easy to engage all clutches and then open the engine throttle slowly. By watching the pressure gauge or weight indicator, the operator can accurately control the operation to provide the exact stalled pressure or line pull desired for a given condition. This stalled condition can often be maintained for an indefinite period without injury to any of the equipment. If higher pressures or line pulls are desired, they can be obtained by increasing the throttle opening, provided, of course, that the engines are not already running at full throttle.

Operators of special purpose pumps find the torque converter drives most satisfactory. One of the large oil well cementing companies has equipped eight of their heavy duty cementing trucks with torque converter drives and these units are in demand on a wide variety of cementing operations calling for precise control or for very high pressures. It is interesting to note that this equipment has never been called upon to perform any cementing or pumping operations at the maximum obtainable pressure. The unit was used successfully on maintaining circulation with a wide variety of fluids around 17,696 feet of stuck drill pipe in the deepest well ever drilled in California.

Combination Torque Converter and Coupling

This unit is new in the oil fields and again California has the honor of placing the first unit in operation in the oil fields. The combination unit has many of the advantages found in both the converter and the coupling and few of the disadvantages of either. It will develop a torque multiplication of three while the straight torque converter now available develops a torque multiplication of a little over four. The efficiency of this unit runs as high as 90% while the scoop coupling reaches a maximum of approximately 96% but the combination maintains a high efficiency over a much wider speed range.

The combination unit is a single stage torque converter with the reaction blades mounted on an overriding clutch. When the output torque requirements are greater than the input torque the unit operates as a torque converter and provides the desired high torque. When the output torque requirements are lower than the input torque the fluid in the unit automatically allows the reaction blades to rotate on the over-riding clutch and the device turns into a hydraulic coupling with corresponding high speed high efficiency.

Existing applications are limited to oil field hoisting equipment but the characteristics of the power curve indicate that it is equally applicable to powering slush pumps and special service pumps within the size limitations of the unit.

Air Friction Clutches

Air friction clutches are another item that fulfills many of the reasons set down for the adaption of pneumatic equipment to drilling machinery. The earliest application

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of air controls to friction clutches was made because the operators could no longer manually engage the large clutches required to transmit the power of heavy duty internal combustion driven drilling rigs. This device therefore does a job that could not be done by manual means and it also eliminates much of the driller fatigue in making round trips. The ability to instantly engage and disengage an air friction clutch at any time is a safety feature and the elimination of clutch adjustments insures long life and reduced down time which is an economic advantage. The actual cost of the initial installation is not necessarily less when air friction clutches are used but the reliable performance and reduction of down time for repairs is a real economy.

Present deep power drilling equipment shows very clearly that the air friction clutch is vital. It is now used on all modern rigs from the lightest to the heaviest and for all purposes from connection of engines, to the compounding transmission, to the drum shaft high and low speed clutches. Many makes and types are available and it is interesting to note that two of the leading California manufacturers of heavy drawworks were among the first to develop full air clutches. They use them on the drum-shafts of their heavy drawworks.

There are now at least six manufacturers of drawworks who are manufacturing their own plate type air clutches and one commercial clutch manufacturer is producing this type of equipment. There is also the contracting and expanding rubber tube actuated clutch which is finding wide acceptance in drilling equipment. This clutch is particularly in installations where the clutch is allowed to run disengaged for long periods of time and as a combination engine clutch and flexible coupling. It is also used on many of the main drum clutches and selective speed clutches. Each type of clutch has its one feature but all true air clutches have two things in common; namely, freedom from adjustment and reduction of shock in picking up a load.

Air Slips

Hydraulic drives and air clutches have greatly reduced the fatigue of the driller but the air slips were one of the first major items to reduce the labor of the "roughnecks." Air slips are now used on many of the deep drilling rigs operated by both contractors and oil companies. They had the distinction of being used on the deepest well drilled in California as well as many other wells below 14,000 feet. Their usefulness extends to wells of moderate depth as well and each month sees new application of this type of equipment.

Safety is another feature of the air slips. In the operation of this equipment the drilling crew can stand well back from the rotary table while running pipe. On wet jobs, air slips keep the crew dry and add to their comfort. Elimination of manual handling of the heavy slips also eliminates the danger of injury to the crews hands and feet due to slipping or dropping the manual pipe slips.

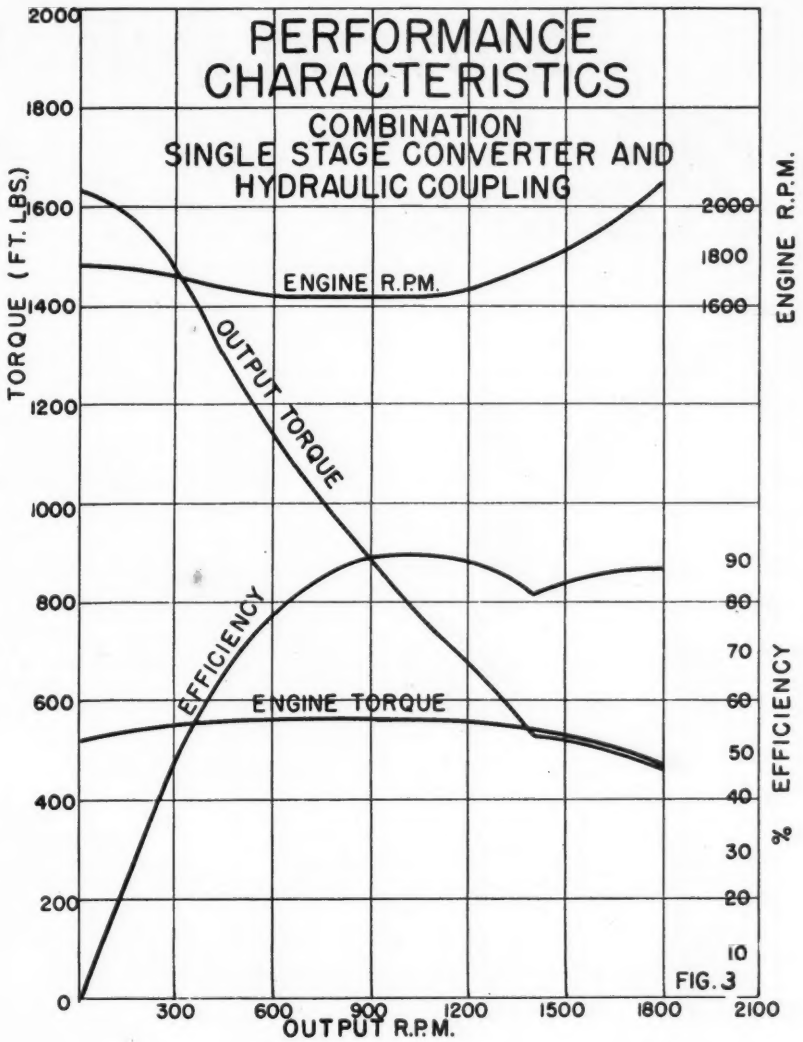

FIG. 3

Air Drill Pipe Tongs

Air operated drill pipe make up tongs are now in use on at least two California wells. This device consists of a drill pipe tong incorporating an air motor and toothed drive. The tongs are placed on the drill pipe as soon as the pin is installed in the box and the air motor in the tong spins up the threads. A catline attached to the tongs is actuated by the make up cathead in order to complete the operation of tightening the threads. This device reduces drilling crew fatigue and gives promise of being a useful tool on deep drilling operations. It is safer than the old method of spinning up joints with a soft rope and

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compares favorably with the more modern method of using a make up friction cathead.

Remote Control Drawworks Brakes

There are several drawworks operating at the present time with remote control brakes and each manufacturer has his own method of accomplishing the control of this important item of equipment. Some use air, some hydraulic power and some a combination of the two to engage their brakes. One of the largest power rigs has air controlled drawworks brakes with powerful springs to apply the brake and air cylinders to oppose the springs in releasing the brake. There are numerous details of drawworks brake controls to be worked out but this is one of the most important jobs of the equipment designer at the present time. Spring or static loaded brakes with air or hydraulic operated rams or cylinders to release brake have the advantage of applying the brake instantly in case of a failure in the air or hydraulic pressure.

Air clutches, hydro-kinetic drives and eddy-current brakes add to the overall controlability of the modern drawworks and make it possible to experiment with remote control brakes. Several adequate drilling line feed off devices (dummy drillers) make it possible to feed the drilling line off evenly and smoothly and provide the driller with a means of controlling his load without the assistance of the main drawworks brake.

Minor Pneumatic Devices

The use of compressed air to control many of the friction clutches on the modern power rigs, introduction of air slips and air tongs and experimentation with air operated drawworks brakes makes compressed air available to perform many other functions on a modern drilling rig.

Modern friction catheads are provided with clutches either operated by air cylinders or with the air pressure applied directly to the clutch friction material. These catheads provide the driller with finger tip control while breaking joints and insure him of the ability to release the cathead clutch instantly in an emergency. Air operated friction catheads are also used to spin up the joints from the rotary side and to make up the joint through the tongs from the driller's side. The use of two air controlled friction catheads in this manner eliminates the danger of tonging with a soft rope and the air controls reduce the cost of installation. On rigs with this type of equipment, the cathead man has very little to do while making and breaking pipe. On modern rigs it would be very easy to operate safely and economically with four-man crews due to the use of two air catheads and air slips.

The first air controlled catworks has just been installed in California. It consists of a self-contained unit with its own power package, three catheads and a heavy duty catline hoist. It will be useful in rigging up and moving the heaviest loads about the drilling rig and also will facilitate all cathead work when the drawworks is placed below the derrick floor level.

A new air operated device is being used by one of the cementing concerns to unload bulk cement into the mixing hopper of their cementing truck. This device consists of a conventional hopper truck with a stationary canvas belt on a slight slope in the bottom of the hopper. Compressed air at about 15 psi is blown through the canvas belt and this provides a friction free surface for the bulk cement to slide along. It is reported that this device makes it possible to accurately control the speed with which the bulk cement is dumped. The entire unloading mechanism is much lighter than previous devices and this savings in weight is added to the pay load of the truck.

Minor Hydraulic Devices

Designers of hydraulic devices must provide their own hydraulic power as they do not find any modern drawworks equipped with major functions performed by hydrostatic drives. The basic source of hydraulic power on all drilling equipment drives is a small oil pump driven off of the main power unit. This compares with the air compressor used in connection with air operated devices. The oil under pressure is conducted through suitable pipe or tubing to the hydraulic driven device and then drained back to the oil sump after performing its function.

One of the most common uses of hydraulic power is in raising and extending portable drilling derricks. Hydraulic rams are used to raise many of the portable masts to the vertical position and many incorporate safety features that prevent lowering the mast to the horizontal at over a given speed. An interesting application of hydraulic rams is the four ram lift used to elevate an entire single engine trailer mounted

Signal Oil Co. employees at the South Bolsa lease, installing pump unit on well B-77A in the Huntington Beach field. Left to right: F. A. Moore, well puller; R. E. Ormsby, well puller; J. M. Blankenship, well puller; W. I. Christie, operator.

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drilling unit and telescoping mast 8 feet in the air. This set of rams enables the operator to lift his drilling unit high enough to install adequate blow-out preventers and to make the lift with a minimum of labor, time and sub-structures.

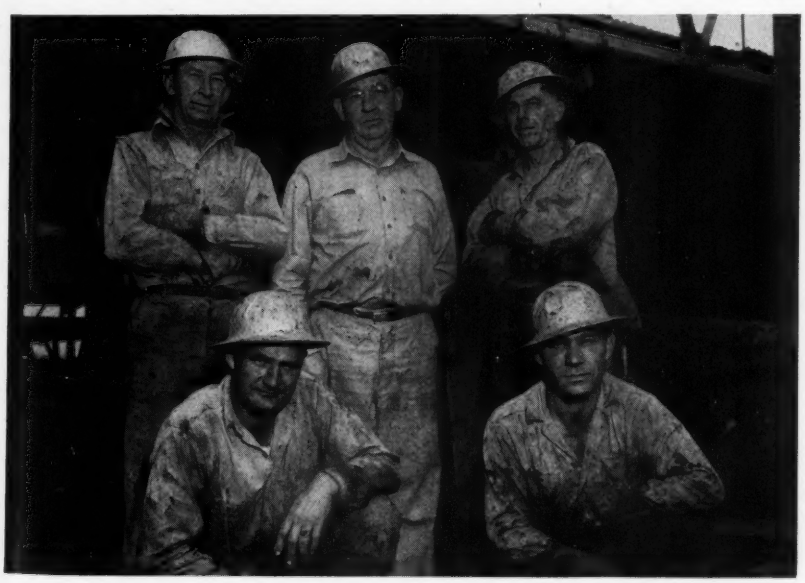
Another single engine drilling unit has a cat shaft mounted on the legs of the derrick. This cat shaft is driven by a 60 horse power hydraulic motor and its speed is independent of the speed of drawworks shafts. In this installation the drawworks and engines are mounted in an aluminum trailer assembly which remains at ground level and the derrick floor is elevated. Hydraulic controls are used to actuate the main drawworks brakes, the sand reel brake and the drilling engine throttle. The upper section of the mast on this unit is extended by a hydraulic motor driving a sprocket through suitable reduction. The sprocket engages a stationary chain in the upper section of the mast and causes it to climb by its boot straps.

A larger drilling unit incorporates hydraulic motors to drive a positioning chute for racking drill pipe.

Another company uses a hydraulic pump and motor to drive a small rotary table for drilling out and remedial use. There are a multitude of uses for hydro-static drives on drilling equipment. Most of those used at the present time are of small horse power and their main feature is their ability to deliver power to any reasonable source without complicated gearing shafts and sprockets.

Acme Drilling Co., contractors at Royalty Service Co.'s well No. 1, Huntington Beach, rear row, left to right: R. E. Haggaid, pipe racker; Nathan Capps, derrick; B. L. Garlington, driller; front row, left to right: A. G. Rider, lead tong; T. L. Johnson, cat head.

Modern cement pumping trucks and bulk cement trailers use many hydro-static drives. The bulk trailers use hydraulic pumps and motors to drive the screw for dumping the cement into the mixing hopper. A wide range of accurately controlled speeds are obtained with this type of drive. The cement pumping trucks use the hydraulic pumps and motors to drive the cement conveyors, the mixer motor and the cement and water proportioner.



In the Long Beach field, at Continental Southern Corp.'s well No. 123, rear row, left to right: W. B. Wynn, derrick; A. J. Westerfield, driller; C. W. Stanley, pipe racker; front row, left to right, T. C. Hisaw, lead tong; L. A. Gibson, cat head.

Conclusions

Most of the hydraulic and pneumatic drives used at the present time fill several of the needs set forth as the reasons for use of this type of equipment. The drilling crews all thank the equipment designers for the fatigue reducing devices and the safety engineers appreciate the reduction of hazard through the use of many of these devices. Few of us stop to realize that many of the jobs performed by hydraulic and pneumatic devices would be almost impossible without these items. Sometimes we do not pause to consider that this equipment is new and most of it is still being perfected. There are mistakes made in the installation and use of hydraulic and pneumatic drives but the end results to the industry as a whole are very beneficial. No doubt many individual drives and uses have been overlooked by the author in the scope of this paper, but he did not intentionally slight any manufacturer or user of this type of equipment.

This paper was presented at the Spring Meeting of the Pacific Coast District, Division of Production, API, Biltmore Hotel, Los Angeles.

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Unretouched illustrations of only a few of the many different kinds of junk easily recovered in record time by this master fishing tool . . . indisputable evidence of its ability to do the job the way you want it done. It gets *everything* in the hole from scrap to heavy equipment. Use it because it cuts recovery costs . . . *saves time, labor, money* and *production* . . . and remember, it pays off three ways.* See your nearest Globe representative.

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Rock bit and formation.

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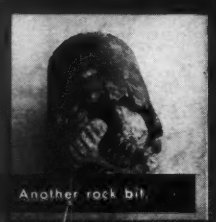
Another rock bit.

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REAMING:
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The Internal Combustion Engine In the Oil Field

By
O. B. Freeman,
Compressor Plant Foreman,
Tide Water Associated Oil Co.,
Ventura, California

In most discussions and papers written on this and kindred subjects, the material is handled in a more or less highly technical manner and as a result becomes of doubtful value to the operating and maintenance personnel in the oil industry. Since we in the California oil producing districts, are composed mainly of operating men, it is to the plant and field operators and mechanics that this discussion is directed. We are not primarily interested in the technical problems of the design engineer but rather the problems met by the shift operator and mechanic. If we can develop a good understanding of the theories of proper engine operations and the line of reasoning leading up to these operating methods, we will eliminate many of our problems.

TYPES OF ENGINES:

Two-Cycle

Engine types can be divided in several ways. First we may divide all engines into two types, two and four-stroke cycle or as is commonly called two and four cycle engines. Primarily the two cycle engine is probably the simpler of the two. In this engine, the fuel charge is ignited at the top of each piston stroke. The force of the burning fuel charge drives the piston downward in the cylinder. Near the bottom of the stroke, ports or holes in the side of the cylinder are uncovered by the downward travel of the piston and through these ports the burned gases are allowed to escape. As the piston starts its upward travel, fuel gas and air are forced into the cylinder under low pressure. Continued upward travel of the piston compresses the fuel charge and when the piston reaches the top of the stroke, the engine is ready for the electric spark to ignite the charge and start the cycle of operation all over again. Thus we have the complete cycle of operation in two piston strokes or as we say two stroke cycle.

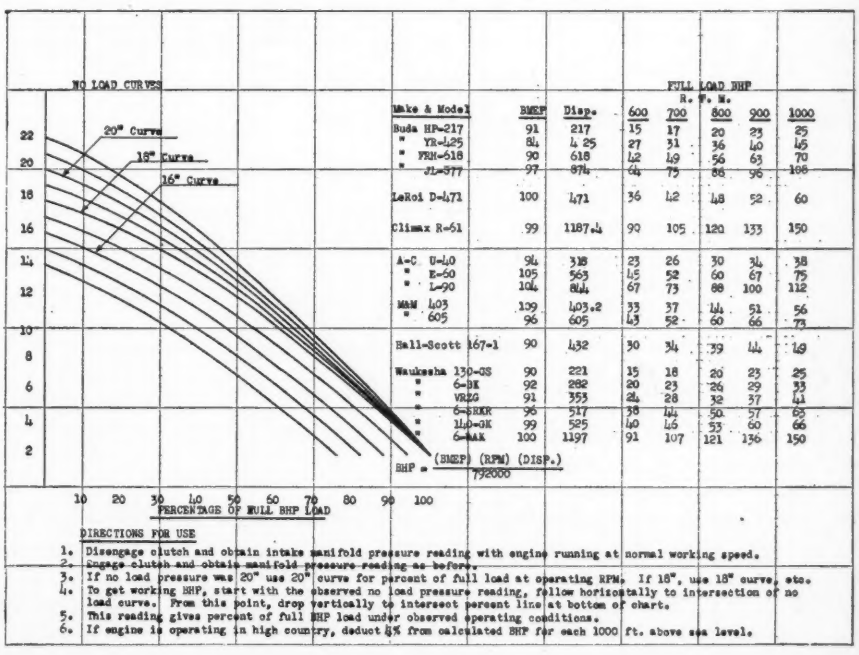
4 Cycle or Otto Cycle

The next type is the Otto cycle or four cycle engine. In this engine four strokes of the piston are required to complete the cycle instead of the two strokes just discussed. This theory of operation was developed by a German named Otto many years ago. At the time of its inception, engine fuel, as we know it, did not exist. So the old fellow reasoned somewhat like this. If a piston was made to move up and down in a cylinder with the lower end of the piston connected to a rotating shaft through a connecting rod it could be made to do useful work. Starting at the top of the stroke, he would have the piston draw some kind of fuel, he did not know what, into the cylinder by the vacuum created by the downward travel of the piston. As the piston traveled up on this revolution it would compress the fuel so that when it reached the top of the cylinder, it could be ignited by some kind of a spark, he did not know what. The heat of this explosion would force the piston downward. On this stroke the useful work would be done. Then on the following upward stroke the burned gases could be forced out of the cylinder through some kind of valve or port, leaving the cylinder empty and clean for the next charge. These four strokes primarily describe the four cycle engine cylinder or the Otto Cycle. The above two types of engines are divided into different types applicable to both two and four cycle engines. Both are divided into what can be grouped as heavy duty and automotive types. Since in the oil industry we use few automotive engines, we will consider only the heavy duty type. The heavy duty may be divided into single cylinder, twin cylinder and multi cylinder according to the number of cylinders used in the make up of the engine. These types may again be divided into air cooled and water or liquid cooled, according to the method used in cooling the engine.

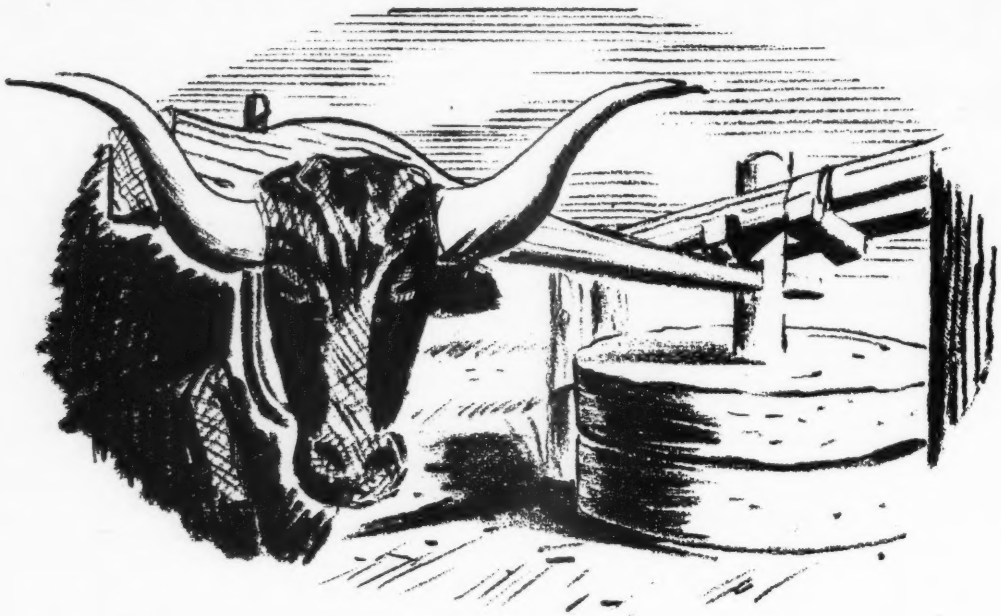
TRENDS OF TYPES:

Pumping Engines

It is interesting to follow the


NO LOAD CURVES
20" Curve
18" Curve
16" Curve
22
20
18
16
14
12
10
8
6
4
2
10 20 30 40 50 60 70 80 90 100
PERCENTAGE OF FULL BHP LOAD
BHP = (BMEP) (RPM) (DISP.) / 792000
DIRECTIONS FOR USE
1. Disengage clutch and obtain intake manifold pressure reading with engine running at normal working speed.
2. Engage clutch and obtain manifold pressure reading as before.
3. If no load pressure was 20" use 20" curve for percent of full load at operating RPM. If 18", use 18" curve, etc.
4. To get working BHP, start with the observed no load pressure reading, follow horizontally to intersection of no load curve. From this point, drop vertically to intersect percent line at bottom of chart.
5. This reading gives percent of full BHP load under observed operating conditions.
6. If engine is operating in high country, deduct 3% from calculated BHP for each 1000 ft. above sea level.

Make & Model	BMEP	Disp.	FULL LOAD BHP R. P. M. 600	700	800	900	1000
Buda HP-217	91	217	15	17	20	23	25
" YR-425	84	4 25	27	31	36	40	45
" FRH-618	90	618	42	49	56	63	70
" JL-877	97	874	64	75	88	96	108
LeRoi D-471	100	471	36	42	48	52	60
Climax R-61	99	1187.4	90	105	120	133	150
A-C U-40	94	318	23	26	30	34	38
" E-60	105	563	45	52	60	67	75
" L-90	104	844	67	73	88	100	112
M&M 403	109	403.2	33	37	44	51	56
" 605	96	605	43	52	60	66	73
Hall-Scott 167-1	90	432	30	34	39	44	49
Waukesha 130-GS	90	221	15	18	20	23	25
" 6-BK	92	282	20	23	26	29	33
" VRZG	91	353	24	28	32	37	41
" 6-SKKK	96	517	38	44	50	57	63
" 140-GK	99	525	40	46	53	60	66
" 6-AAK	100	1197	91	107	121	136	150



Ig the Igger had no oil

One interesting measure of the progress of civilization is the use of energy in mechanical equipment. In this country we've gone a long way since Ig the Igger first hitched an ox to his millstone, but in many parts of the world human labor and domestic beasts still furnish most of the power.

The United States has moved ahead rapidly because it uses forty or fifty times as much mechanical energy, per capita, as in primitive countries.

In the last generation it has been up to the oil and gas industry to supply more and more of the energy that supports our American civilization. Before the first World War, oil and gas supplied only 16% of the total, but now they combine to furnish 42% of all fuel energy.

Under our system of competitive business, the oil industry has done a tremendous job of supplying the money, the manpower and the ability to meet this demand for petroleum products. It is a record of which everyone in the business can be justifiably proud. You, and everyone in the oil business, have an increasingly important part in making petroleum a measure of greater progress in civilization.

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trends of engines used in the oil fields over the past years. In early days of California field operation, the single cylinder engine was used exclusively in oil well pumping. From that we went to the multi cylinder type exclusively. Today there seems to be a tendency for the pendulum to swing back. At least one make of twin cylinder pumping is in operation in the mid continent and on the coast and one manufacturer is now working on plans for a single cylinder pumping engine. I have had the privilege of looking over the engineering data and am not so sure but that he may have something.

Compressor Trends

In the early days of gas compression, large compressors of five hundred to one thousand horsepower were the rule. Such compressors as the Snow, National Transit and Cooper Tandem being typical of the day. These were found to be too large for economical operation in the field so the industry swung to the opposite extreme. One hundred and fifty to two hundred horsepower, twin cylinder compressors running at around two hundred RPM became the rule. These were eventually found to be too small for most economical operation. Now we use mainly the multi cylinder compressor of three to four hundred horse power and running at a speed of from three to five hundred RPM.

The preceding has nothing to do with actual engine operations but to anyone engaged in this work it can not help but be of interest.

The plant operator or mechanic when listening to a paper at a meeting of this kind frequently becomes confused at some of the terms and abbreviations used by the speaker so let us stop now and check these over to see how really simple they are.

First is RPM. This is simply revolutions per minute or engine speed.

B.H.P. is brake horse power or simply horse power.

B.M.E.P. or MEP is the average pressure on an engine piston as it travels downward on the power or working stroke.

Foot pounds is the measure of power exerted by an engine. A foot pound is the amount of power required to raise one pound a height of one foot. 33,000 foot pounds equals one brake horsepower.

Torque

Torque is the rotating or twisting power of a crank shaft. It is measured in foot pounds per minute and is taken 12" from the center of the shaft.

P.S.I. means pound per square inch. It is usually used in measuring pressures while foot pounds are used in measuring power moving through space.

Btu

Btu means British thermal unit. One Btu is the amount of heat required to raise one pound of distilled water one degree Fahrenheit.

LOADING:

Load carried should be based on B.M.E.P. at R.P.M.

The correct B.M.E.P. is governed by various factors incorporated in engine design.

In general, best operating conditions are with a B.M.E.P. around 60-65 pounds. This is for engines of speed of 500 R.P.M. and up and takes in engine sizes used in oil well pumping, and oil and water pumps in compressor plants, gasoline plants and refineries.

Compressor engines and engines driving pumps on pipe line stations are heavier and in general will work efficiently under a B.M.E.P. much higher. The above presupposes constant load operations. A B.M.E.P. of 50-55 pounds gives poor engine performance, excessive first cost and should not be used when purchasing engines for plant work as loads on such jobs can be easily calculated before purchase and installation.

The above is not true regarding oil well pumping due to uncertainty of load at the time of installation, increase of load with passing years due to the lowering of fluid level, depletion of formation gas, encroachment of water, etc. The method we use in purchasing prime movers is to select a B.M.E.P. of approximately 50 pounds at optimum R.P.M. based on the petroleum engineers' calculations of present load.

When the engine is put into service, the speed should be decreased to give the desired B.M.E.P. of 60 to 65 PSI. As time goes on and the load increases, the RPM may be increased to maintain the desired B.M.E.P.

This brings up the question of the method of determining the B.M.E.P. of an engine as it is being run. If an internal combustion engineer is employed by the operating company, this calculation will be made by him. Not all large, and fewer small companies employ such technical help. In this case, the work must be done by the operating personnel in the field.

Most common method used for this purpose is the mercury tube, which gives a good substitution figure. A manifold pressure of around 12" of mercury is usually considered the dividing line. Pressure above 12" on fuel intake manifold gives poor engine operations. Excessive oil is pumped, fouling the plugs, sticking rings, and creating excessive carbon on piston and cylinder heads. In this case, slow down the engine speed by changing pulleys or gears until manifold pressure has dropped to around 10" but not below 8" for best long time performance on light engines. Compressor engines may be loaded as low as 4" without serious consequences.

ENGINE SPEED:

Chart No. 1

Everything else being equal, the best thermal efficiency is generally conceded to be at the speed where torque and H.P. curves cross.

For constant speed operation, this R.P.M., is in general, entirely too high. For maximum efficiency from an economic standpoint, operating speed range should not go beyond position of top of torque curve. The R.P.M. may be moved back to a point below maximum of torque curve but not to where the engine begins to lug, as this indicates too high a B.M.E.P. Referring to Chart No. 1, you will note by the curves that as you increase speed past the peak of the torque curve, the H.P. does not increase with the same ratio as the increase of speed. However, beyond this point, engine wear will out-strip the increase of both speed and power.

The above is true regarding constant speed engines only. Variable speed engines such as automotive

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engines are operated much beyond this point.

Chart No. 2 shows B.H.P. plotted against manifold pressure on a compressor running at 300, 325 and 350 R.P.M. You will note that these curves are straight lines throughout their entire range. A table made from this curve will read as follows:

Full load	=	4.5"	of mercury
75% "	=	8.8"	" "
50% "	=	17.2"	" "
Idling	=	21.0"	" "

On the basis of the above table you can see why we consider a manifold pressure on our compressor engines of between 4 and 5 inches to be a full load. Our operating instructions are to never go above a 4" load.

Also from this same table, a 65% load would be indicated at about 10" of mercury. This we consider the ideal loading for engines in the sizes used for most well pumping work.

To carry the point farther, here is a table of an engine of 6 cyl and 5.3 compression ratio using Butane fuel.

RPM	% Load	BMEP
900	100%	103#
"	75%	78#
"	50%	52#
"	25%	23#

In this engine which you may consider fairly typical, the numbers representing % load and those representing the BMEP are very nearly the same for the entire scale.

This again shows why we use a BMEP of 60 to 65 pounds. This is also in the neighborhood of the API rating which is generally favored in oil field work.

Horse power curves based on manifold pressures are usually plotted for new engines in perfect condition. After the engine has been in use over a period of time gas leakage develops past piston rings and valves. This causes our curves to give false readings. In order to correct for this, it will be necessary to get the "No load manifold pressure" with the engine running at full operating speed. A newly overhauled engine should have a no load pressure of about 19". If the engine being investigated has a no load reading less than 19", your load reading must be corrected to the existing conditions.

To take care of this problem on our leases, we have developed a used engine load vacuum chart showing engine makes and models used on our various jobs. This chart shows the maximum BMEP piston displacement and percentage curves of no load readings plotted against new engine conditions.

This enables a quick and fairly accurate check on the actual power being developed by any engine at any time.

The normal operating loading as just previously discussed applies to multi cylinder engines only.

Compressor engines being much heavier constructed may be operated under a loading of ninety to one hundred per cent and corresponding BMEP.

TEMPERATURES:

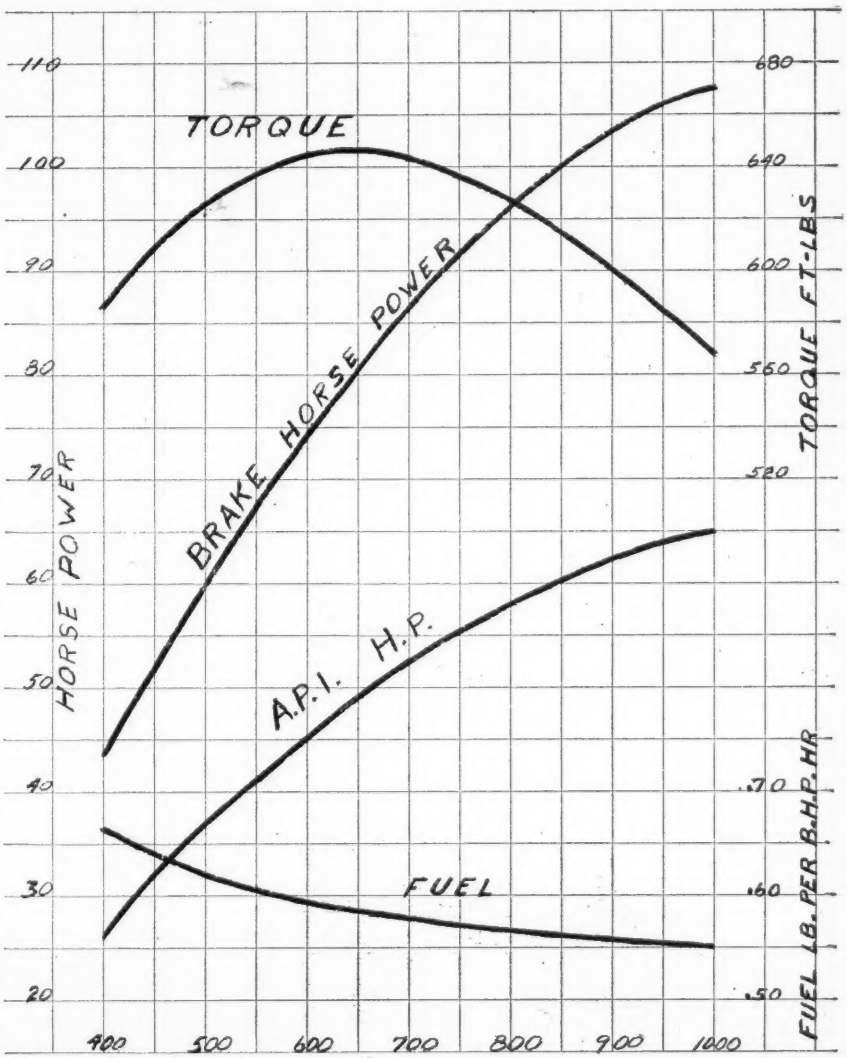
The next and very important feature to consider is temperatures.

The plural is used in this case as there are several temperatures that must be considered.

The one usually considered first and sometimes the only one considered is the jacket water out of the engine.

In past years, a rule of thumb formula was commonly used by engineers and operators to determine this temperature.

Taking 200° F. as a base point and subtracting 5 times the cylinder bore gave the water temperature from the engine. Suppose you were operating an engine of 6" bore. Then $5 \times 6 = 30$. $200 - 30 = 170$. Therefore, you ran your engine



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with a water discharge temperature of 170° F. Or if your engine had a 10" bore. Your water out temperature would be $200 - 5 \times 10$ or 150° F. No attention was paid to the intake temperature or the temperature rise across the engine.

Most compr. engines had a cylinder bore greater than 10", so a temperature of 110° F. to 120° F. was generally accepted. About 12 or 15 years ago an engineer of one of our major oil companies read a paper before the L. A. chapter of the C.N.G.A. in which he stated,

> "As the water temperature from a compressor engine rises above 110° F. to 120° F., your operating costs go up in direct ratio to the rise in temperature."

You will notice that nothing was said about water temperature to the engine, temperature rise across the engine or crank case temperature. Just the temperature from the engine.

As we have noted, large early day machines of 500 to 1,000 BHP were used. None of these engines had a cylinder bore less than 15 inches, and few of them had piston cooling. Because of this, a low-water temperature was considered necessary in order to get a sufficient temperature differential between the piston and the jacket water. The low temperature theory for these engines was not entirely correct for some of these old models are currently in operation at temperature around 165° F.

Mainly as a result of the above mentioned theory, one manufacturer came out with instructions that multi cylinder units of their make were not to be run with a water temperature above 120° F. Results in the field soon showed the error of this figure . In fact some of the operators who persisted in holding to this temperature seriously injured their equipment. Eventually, the manufacturers' engineers were forced to admit their error and temperature figures in their instruction books were changed.

For a while we operated our compressors at 180 to 190°F with no noticeable complications. However, we eventually got cold feet and cut it back to 165°F, at which temperature we have continued to operate. Our smaller cylinder engines are being run with a water out temperature of around 180°F.

Vapor Phase

Most of the early day difficulties of high temperature operations were, in my opinion, traceable to overload and a low water circulation rate. Many of the operators of 25 years ago circulated from ½ down to as low as ¼ of the jacket water per BHP minute, as against that which is considered good practice today. If there was any uneven mixture in the piston castting, the above conditions caused heat to localize in certain spots on the piston which in turn caused blisters. These blisters might cover an area of from 10 to 20 square inches. A little higher than average load or temperature caused the piston at the blister location to swell, freeze, kill and sometimes seriously injure the engine. A jacket water circulation of around one gallon per BHP min. would have helped prevent this trouble.

The real answer, however, has been oil cooling of large pistons. Early day control of compressor engine temperatures was mainly by reducing spray water over the cool ing tower which worked very well. Throttling the discharge water on small engines was the only control. This produced the effect of increasing the temperature rise across the engine. A temperature rise of 30°F to 40°F being not uncommon. Modern practice is the opposite. That is, the engine temperature is controlled by controlling the temperature of the water to the engine, allowing the discharge temperature to float. On radiator cooled engines, this is achieved by use of shutters or a by pass. On modern cooling towers this is accomplished by passing the tower. With this method, lowering of the temperature rise across the engine is limited mainly by design of water jackets only.

Most modern engines are designed to operate with a temperature rise of 10°F or less. To get this effect, a circulation of about 1 gallon per BHP min. is required. In most modern compressors having water jacketed manifolds, 70 to 75 Btu / H.P. min. is passed to the jacket water. The circulation of 1 gallon /BHP min. in these compressors will give a temperature rise of between 8 and 9°F across the engine which is very good.

We have considered three temperatures, that is, jacket water in, jacket water out and rise across the engine. There is another temperature that has been pretty much ignored in the past and that is crank case temperature. In many cases it is still not given sufficient attention.

One important rule to be observed in all makes of engines is to keep the crank case temperature above the dew point. You can go below this point on new or recently overhauled jobs without serious injury. However, when the engine begins to show wear and piston blow by increases, a temperature below the dew point will build up the water condensation in the crank case with its increased formation of emulsion and sludge. The dew point is around 140°F, so we consider a crank case temperature of above 140°F as a must.

When we consider that cold oil does not have the cooling effect of hot oil on an oil cooled piston, within certain limits, you can see there is a definite relationship between crank case temperature and the jacket water temperature required. The differential between the two temperatures during normal operations is determined by the piston clearance in the cylinder. The smaller the piston clearance, the greater must be the temperature differential.

The best example is in starting up a cold engine. At this time the oil is cold and very viscuous. Its travel through the inside of the piston is slow, resulting in a slow removal of heat from the piston. If a heavy load is thrown on the engine at this time, heat will build up in the piston much faster than in the jacket water. As a result, the expansion of the piston will be enough faster than that of the cylinder that it is possible to freeze the engine. After the engine reaches normal operating temperatures, the foregoing does not hold true.

If a piston clearance of .001 or more per inch cylinder diameter is used, there is very little chance of serious trouble at operating temperatures. However, if a clearance of less than .001 is used by the manufacturer, the crank case tempera-

ture should be kept around 15°F below that of the jacket water.

Before leaving the subject of the crank case, there is one other thing we should consider, and that is crank case pressure. Too little attention is given this subject by many operators and manufacturers alike. High crank case pressures definitely increase the formation of water and sludge in the oil. Most manufacturers in the past and some are allowed to be recycled back into the engine through the air intake, the crank case oil soon beeven now try to eliminate this trouble by tying the carburetor air intake into the crank case vent. This practice produces a very bad condition by recycling and building up the acid content of the oil. Many natural gases contain sulphur. When this type of fuel is used, sulphuric acid vapors are present in all blow by gases. If these vapors comes excessively acid. If no sulphur is present, engine exhaust gases are still very corrosive. A gas may be used as boiler fuel and produce a flue gas completely neutral. The same gas when used as an engine fuel will produce a gas containing hydrochlorous, not hydrochloric, acid in very corrosive quantities. So vent your engine well. You cannot overdo it. But vent into the air, not back into its own innards.

In the Huntington Beach field at Pacific American Oil Co.'s well No. 12, left to right: C. B. Ward, driller; R. J. Wilson, lead tong; C. T. Swann, back up; Dallas Hawkins, cat head.

Now let us go back to our curves and see if we can't bring some of the smart boys thunder down to our own working level. Looking at Chart No. 1 again, we find the curves of a conventional oil well pumping engine. Across the top is part of a rainbow with the end pointing down. This is the torque curve and indicates the amount of twisting force exerted by the crank shaft measured in ft. pounds. Starting at the left, which is the low speed side, the curve climbs toward the top of the chart. Since the engine power is the product of speed X torque, you will see that the power increases faster than the speed increases. Somewhere near the center of the chart, the torque curve starts down. From here on the power does not increase as fast as the speed increases. The speed at which the torque curve reaches its maximum is usually the best speed to operate an oil field engine from a standpoint of economy.

Starting at the lower left hand corner, are two lines slanting upward across the paper. The upper one is the bragging HP curve and is the one used by the salesman when he is trying to sell you the engine. Where this line crosses, the torque curve is the speed most commonly used by engines on intermittent work. Automotive engines, of course, go much farther in speed.

Below the bragging curve, is another similar line. This is the horsepower curve you use when planing a load for the engine. It is sometimes called the API curve and is about 65% of the maximum power. In this curve you will notice that the top of the torque arc is short or rather, we should say, the curve rises fast, breaks

short over the top, and starts to drop. This is characteristic of a constant speed engine. There being a short range of speeds in which it will operate efficiently. You will sometimes see curves in which the torque is very flat. This indicates a variable speed engine. The curve being almost flat, allows the power to vary almost in direct ratio to the speed of the engine. This type of engine would be excellent on a hoisting or other variable speed machine.

To further illustrate the use of this curve, let us work a little problem from the curve. We see that the engine reaches its top torque at 650 RPM. Following across to the right we find this to represent a torque of 650 ft. pounds. That is all we need to know to calculate the capacity at the given speed. The power is the torque times the speed times 3.1416D. So the formula becomes:

$$BHP = \frac{\text{Torque} \times 3.1416D \times RPM}{33000}$$

$$= \frac{650 \times 6.28 \times 650}{33000}$$

$$= 80 = \text{Engine Power}$$

Since 80 BHP is the stripped rating and 60% of this would be the operating rating, 60% of 80 = 48 BHP, the ideal load.

Let us see how this checks with the curve. Following the 650 RPM line down to the horse power chart, we find a reading of 49 BHP as against our calculated 48 which is sufficiently close.

There is another simple method of calculating engine power which has high practical value for the man in the field. This is by using the BMEP. This old formula was used by our grandfathers and looks like this:

$$BHP = \frac{PLAN}{33000} \text{ in which}$$

P = BMEP
L = Length of piston stroke in feet
A = Area of piston
N = Power strokes per min.
(Not RPM)

Now let us suppose a case. Suppose the company needed an engine and the boss, having a stingy spell, went out and bought an old second hand engine. The engine being the one we have been discussing. And the "boss", not knowing anything about engines, asked you how much power it would develop. In order to use this PLAN formula you must of course know the bore and stroke. You could get that off the name plate or if it was gone, pull off the head and measure the bore and stroke. In this case, you found the bore to be 6¼" and the stroke 7⅛". Next, how fast to run it. If you can find no literature on the engine, inquire among your friends and acquaintances until you find somebody who was familiar with the job. He would tell you that it ran well for him at 650 RPM. Since we have already said that a BMEP of 65 pounds was a good pressure, we will use it.

So P becomes 65 BMEP

L " $\frac{7\frac{1}{8}}{12}$

Length of piston stroke in feet

A " $3.1416\left(\frac{6\frac{1}{4}}{2}\right)^2$

Piston area

N 55 $\frac{650}{2}$

Power strokes per minute

Or $HP = \frac{PLAN}{33000}$

$$= 4 \times 65 \times \frac{7\frac{1}{8}}{12} \times 3.1416 \times \left(\frac{6\frac{1}{4}}{2}\right)^2 \times \frac{650}{2}$$

$$\frac{33000}{}$$

$$= \frac{1,539,640}{33000}$$

$$= 46.6557 \text{ or } 47$$

We multiplied the formula by 4 because there are four cylinders in this engine. If it had 6 cylinders, we would have multiplied by 6. But, anyway we came out with 47 BHP as the working power on this job. This is a simple common sense way of sizing up an old engine.

U. S. Oil Drilling

As of January 1, 1948, two thousand rigs were drilling for oil in the U. S. If steel is available, 36,000 wells will be drilled this year.

The 20,000-foot Well

Estimated hoisting problems will be severe for the 20,000-foot well. The static weight of the string of drill pipe may approach 400,000 pounds; and the derrick may have to be high enough for 135-foot stands. The static weight of a casing string for such depth may exceed 800,000 pounds.

Long Beach Development Co.'s well No. Z-49 in the Long Beach field, Acme Drilling Co., contractors. Left to right: J. L. Brown, driller; W. W. Scarbrough, pipe racker; J. A. Barnes, lead tong; Everett Taylor, cat head.

BAKER OIL TOOLS, INC.

Announce

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CALIFORNIA OIL OPERATORS

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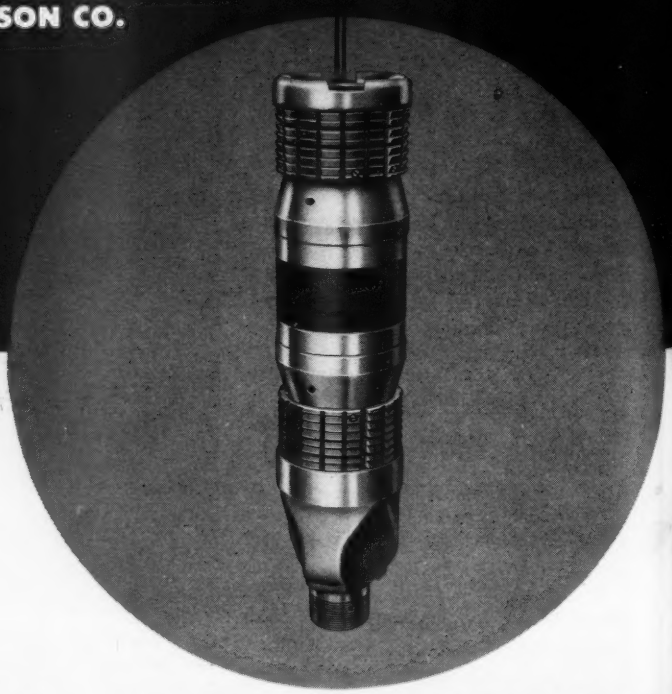

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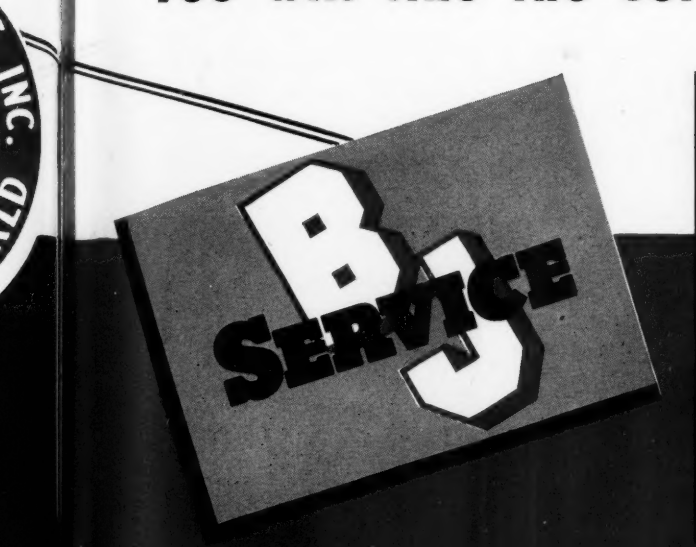

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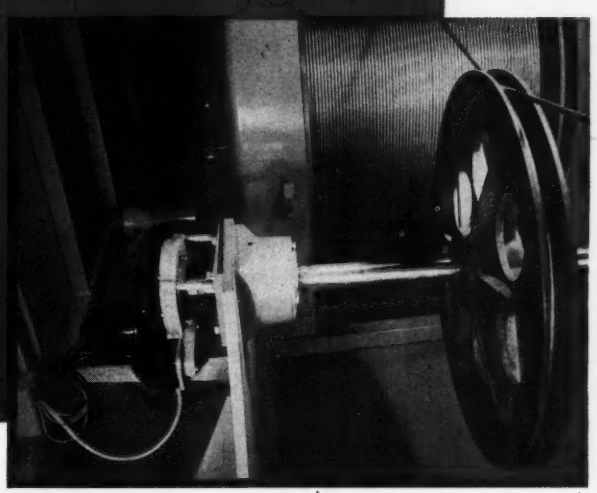
BJ SERVICE TRUCKS, manned by competent, cooperative operators, are available 24 hours a day, every day, anywhere in California.



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ATE IN ONE FAST, SAFE SET-UP

Personalities IN THE NEWS

Powell Advanced By Standard

Appointment of Fred Powell as general manager of its El Segundo refinery is announced by Standard Oil Company of California. He succeeds W. W. Davison, recently named a vice president of Standard.

Fred Powell

Powell was graduated from the University of Washington in 1922 as a chemical engineer and joined Standard in 1925, working at the Richmond refinery. Except for a year at the El Paso refinery of the Standard Oil Company of Texas, he worked at Richmond in increasingly responsible positions until 1938, when he was made assistant to the superintendent of the Bakersfield refinery.

Three years later, in 1941, he was made assistant superintendent of the El Segundo refinery and then manager of the refining division there. He was made president of the California Refining Company, Standard affiliate at Barber, N.J., in 1946, which position he held till his new appointment.

Ralph B. Lloyd, California oil leader and capitalist, has given a city block at Portland, Oregon, for a $1,000,000 museum of science and industry. Lloyd is prominent in the business life of Portland.

Harry F. Sinclair, chairman of the board of the Sinclair Oil Corp., was a recent visitor in Los Angeles to attend a meeting of directors of Richfield Oil Corp. He expressed belief that the country is likely to have good business for some time to come.

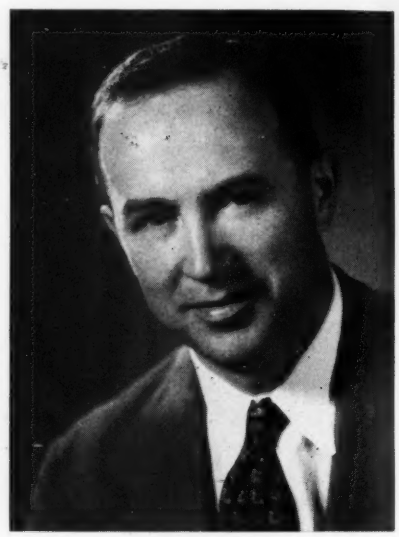
B. I. Graves, executive vice president of Tide Water Associated Oil Co., is the new chairman of the Petroleum Advisory Committee of the Interior Department's Oil and Gas Division.

Ashley DeWitt, Los Angeles independent oil producer and contract driller, sailed from New York for a three-month tour of Ireland, England, Scotland, France and Italy. He will visit the birthplace of his mother in Tipperary. His departure from New York marked 40 years to a day that DeWitt took an earlier trip to the "Ould Sod." Mrs. DeWitt is accompanying DeWitt on the tour, which will include an audience with his holiness the Pope.

W. B. Curtis, manager of public relations for General Petroleum, was the main speaker at the meeting of the Coalinga-Kettleman chapter of the American Petroleum Institute at the Polvadero Country Club. Curtis, who is also vice chairman of the A.P.I.'s district 5 public relations committee, spoke on "The Petroleum Industries Public Relations Program."

John Isaacs Joins Hillman-Kelley Company

John B. Isaacs, well known to California operators, has joined the sales force of the Hillman-Kelley Company.



John Isaacs

Mr. Isaacs worked for the Vernon Tool Company in sales and engineering from 1934 to 1938, after which time he joined the Hughes Tool Company, advancing to the position of special representative in the Pacific Coast Division.

Mr. Isaacs is a graduate of Stanford University Engineering School, is a member of the Los Angeles Chapter of Nomads and the American Petroleum Institute.

Gulf Oil Corp. has announced the retirement of W. L. Mellon, chairman of the board for the past 17 years. His successor is J. F. Drake, who has been president of the company since 1931. S. A. Swensrud succeeds Drake as president.

Mr. F. A. Graser has resigned from the Missouri School of Mines to accept a position as petroleum engineer and geologist with the Cleveland Oil Co. of California. Mr. Graser will be located, after July 1st, at the offices of the company at 509 Subway Terminal Building, Los Angeles 13, Calif.

Deke Houlgate, special representative for Southern California Gas Co., has resigned in order to devote his full time to the management of a business he has established in Los Angeles.

George Atha, Los Angeles geologist and producer, currently is headquartering at Roswell in New Mexico, where he is sponsoring an interesting oil play.

Milton Kane, manager of Morris Estates Co. in San Francisco, has completed a business visit at Los Angeles. Morris Estates is the holder of strategic oil acreage in many sectors of California.

Superweld Corp. Organized

Organization of Superweld Corp., with a capitalization of $500,000 to engage in the electric copper brazing of steel, localized heat silver brazing, bright annealing, and in the manufacture of specialized metal products, was announced recently. Walter T. Wells, chairman of the board of directors, and one of the founders of Lane-Wells Company, has been elected president and general manager. Other officers elected include Robert E. Jones, formerly with the Ray Control Division, vice-president; and C. B. Lansdown, formerly assistant treasurer of Warner Manufacturing Company, secretary-treasurer. In addition to the above directors, Harold C. Hill of General Electric Company, Los Angeles, and William M. West of West & Co., specialists in builders hardware, are also directors.

Walter Wells

Superweld Corp. has purchased all furnaces and brazing equipment of Warner Welded Products, and leased the building with an area of 17,000 square feet and additional land for parking and loading facilities at 708 Hawthorne Street, Glendale 4, California, corner of San Fernando Road. The electric furnaces are the most modern and largest available for custom brazing and bright annealing west of Detroit, and the equipment also includes the most efficient degreasing machine, and auxiliary apparatus.

In addition to performing a highly modern and efficient brazing and metal treating service for industry throughout California, Superweld will manufacture a line of revolutionary new products of its own design which will be announced later and will market them throughout the United States. It is expected other manufacturing companies will be acquired in the near future.

Rice Yahner, assistant manager of the information division, E. I. du Pont De Nemours & Co., was an honored guest at the regular monthly dinner meeting of members of the trade and daily press in Los Angeles.

James E. Adams—Chairman Charcoal Test Committee Calif. Natural Gasoline Assn.

For the past fifteen years, Jimmie Adams has been active in the technical work of the association. During that time he has worked on several of the technical subcommittees that have been responsible for the data developed and published in C.N.G.A. bulletins such as the "Procedure for the Charcoal Test for the Determination of the Gasoline Content of Natural Gas," which has been in great demand in the industry.

James E. Adams

After graduating from Long Beach Polytechnic High School, he furthered his education by studying petroleum engineering at the University of Southern California and by attending courses on Natural Gasoline Plant Design and Operation. At present he is Junior Engineer in plant and field testing work for the Signal Oil and Gas Company at Signal Hill.

This year the Southern California Meter Association has enjoyed a year of successful programs under the direction of Adams together with his active participation in their affairs.

It is not uncommon to see Jimmie at the "till" of a boat of modest draft on week ends around Alamitos Bay. In fact it has often been rumored that he is quite a "monkey wrench sailor."

Field Development

PREPARED FROM CALIFORNIA OIL WORLD NEWS SERVICE

Los Angeles Basin

Seal Beach Project Digs

Marine Exploration Co.'s State No. 2 in Sec. 11-5s-12w offshore South Seal Beach has overcome stuck pipe troubles and is drilling ahead at 6869 ft.

Northwest Athens Attracts Interest

The Howard Park sector of the Northwest Athens area has added new interest exemplified by Pacific Western Oil Corp., which has staked location for Howard Park Comm. No. 1 in Sec. 12-3s-14w. Location falls on the corner of 120th and Raymond streets. On the Poindexter property leased from Union Oil Co., Shell Oil Co. is drilling at 4679 ft. with Union-Poindexter No. 3 in Sec. 12-3s-14w. Shell has No. 1-1, No. 2-1 and No. 4-1 drilling on the section. They have reached 3726 ft., 3111 ft., and 2512 ft., respectively. Union Oil Co.'s Howard Park No. 40 in Sec. 18-3s-13w is drilling at 5295 ft. Near 120th street and Western avenue, J. Paul Getty has made locations for Crawford No. 1 and No. 2. Redrilling is proceeding at 8202 ft. in Jack Herley and Paul L. Kelley's T.I. & T. No. 1 in Sec. 13-3s-14w.

Placentia Try Drills

Universal Consolidated Oil Co.'s Wiley No. 1 wildcat in Sec. 5-4s-9w near Placentia in Orange County is drilling shale at 5148 ft. No showings of importance have been reported to present level.

West Newport Well Starting

Foundations have been started for Rawe-Berger & Associates' Signal-Deeble No. 5 in Sec. 18-6s-10w in the West Newport field. The lease embraces 17 acres. Pacific Western Oil Corp. has completed Gisler No. 1 in the section for an initial yield of 300 barrels of 23.7 gravity oil in 12 hours. Cut was 4 per cent. Total depth is 5316 ft. Location for Gisler No. 2 has been staked 990 ft. south and 330 east from the north quarter corner of the section.

Pico Canyon Try Rigging

In the Pico Canyon area in Los Angeles County, Standard of California is rigging up C.S.O. Fee No. 101 test in Sec. 2-3n-17w. Frew No. 1-5 wildcat in Sec. 29-3n-16w in the Aliso Canyon area is making hole at 1670 ft. Lomita Land & Water Co. No. 3-1 exploratory hole in Sec. 19-5s-11w at Sunset Beach at last reports was spot coring at 6278 ft. Six Companies No. 5 in Sec. 2-3s-15w near El Segundo is grading ground.

Elsmere Try Drills

Nelson-Phillips Oil Co. is drilling at 640 ft. in oil sand with Kraft No. 2 in Sec. 31-4n-15w at Placerita Canyon in the Elsmere area. No. 1 is still producing at the rate of 88 barrels of oil daily from 717 ft. Federal Oil Co.'s No. 1 in Sec. 6-3n-15w is a location.

Acme Drilling Co., contractors at the Long Beach Oil Development Co.'s well No. Y-58 in Wilmington Field. Left to right: R. E. Hawkins, lead tong; Kenneth Tolles, pipe racker; Paul B. Glover, cat head; Frank Borges, driller.

Whittier Try Starts

Foundation is in for Bert Branch's No. 1 test in Sec. 34-2s-11w at West Whittier. Livingston Drilling and Dev. Co. is awaiting unit to pump its Dewey No. 1 in Sec. 1-3s-11w at East Whittier.

Newhall-Potrero Well Drills Ahead

General Exploration Co.'s Ferguson No. 4 along the fringe of the Newhall-Potrero field is drilling on down at 7307 ft. The project, in Sec. 36-4n-17w should reach objective depth in about 1800 ft. more hole. Barnsdall Oil Co., meanwhile, has finished R.S. F. No. 70-5 in the section. The well started off from 8793 ft. flowing 364 barrels a day.

Alondra Park Venture Drills

British-American Oil Prod. Co. is prospecting ahead at 4084 ft. in Village Comm. No. 2 in Sec. 22-3s-14w in the Alondra Park area. Surface pipe is set at 1009 ft.

San Diego Test Drills

Near Oceanside in San Diego County, Charles F. Holmes is drilling in blue shale at 1710 ft. in Holmes No. 1 wildcat in Sec. 31-11e-4w.

Chino Hills Try Rigging

Mercury Oil Company is rigging derrick for No. 1 test in Sec. 32-2s-8w in the Chino Hills area of San Bernardino County. In Sec. 33-2s-8w, Chino Hills Oil Company has reached 1875 ft. with Chino Hills No. KB-4 and is continuing to drill ahead.

Palmdale Test Digs

Not far from Palmdale in Los Angeles County, Antelope Valley Dev. Co. is prospecting ahead at 3980 ft. in Del Sur No. 1 test in Sec. 26-7n-13w.

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Complete Sales and Service Facilities

San Joaquin Valley

McVan Well In Oil Sand

General Drilling Co. apparently has uncovered something of interest with Fitzhugh-USL No. 3 in Sec. 14-27s-27e in the McVan area of Kern County. Oil sand was penetrated in the intervals of 1059-1100 ft. and 1143 ft. and bottom at 1185 ft. Casing has been cemented at 1143 ft. and the well is in the completion stage. The well is about a quarter of a mile south of the company's first producer in the area. Shepard-Robertson's Carter No. 1 is a location in Sec. 7-27s-27e.

Mountain View Wildcat Grades

Union Oil Co. is grading for K.C.L. No. 45-26 test in Sec. 26-30s-28e in the Mountain View area. Location is south of Hogan Petroleum Co.'s Wible No. 1 which was abandoned some years ago at an unproductive depth of 6620 ft. R. & K. No. 1 wildcat in Sec. 34-30s-21e near McKittrick is coring at 3141 ft.

Globe Anticline Wildcat Deeper

On the Globe Anticline, Shell Oil Co. is drilling at 8325 ft. with Vedder-USL No. 1 wildcat in Sec. 9-31s-22e. The company is rigging up for Oakland No. 1 in Sec. 24-28s-27e, a northwest extension test of the Kern River field.

Bacon Hills Venture Digs

In Sec. 21-28s-20e at Bacon Hills, Seaboard Oil Co.'s No. 58-21 is drilling shale at 8755 ft. The objective formation should be reached in an additional 1200 ft. of hole. Location for von Glahn No. 8 in Sec. 6-29s-28e has been made in the Kern Bluff area.

Elkhorn Valley Try Rigs Heavier

Elkhorn Oil & Dev. Co. is preparing to rig heavier equipment to its Norris No. 1 wildcat in Sec. 28-32s-22e in the Elkhorn Valley area of Kern County. Present depth is 2543 feet in oil sand.

Buena Vista Wildcat Deep

Along Buena Vista Lake, Western Gulf Oil Co. is digging in hard shale at 10,911 ft. with B. V. A. No. 18-3 wildcat in Sec. 3-23s-25e. The company's Spencer A-U.S. No. 18-34 in Sec. 34-28s-20e is drilling in hard shale at 3809 ft.

At the General Petroleum Corp.'s well No. S. P. 31, in the Wilmington Field. Left to right: H. Kortje, derrick; J. W. Monay, cat head; Tom Shore, driller; Dick Dickinson, piperacker; F. L. Hammons lead tong.

Cantua Creek Wildcat Begins

Cellar has been dug for Superior Oil Co.'s Harnish Bros. No. 1 wildcat in Sec. 25-17s-16e on the Turk Anticline near Cantua Creek in Fresno County. Location is southwest of the Helm field and about a mile and one-half south of the company's KCD No. 1 test, which was abandoned at 10,510 ft. in November, 1946. More than a dozen drilling jobs have probed the area in recent years without achieving commercial success.

Jasmine Try Rigs Derrick

Mayflower Oil Co. is rigging up for J.O.L. No. 1 explorer in Sec. 23-25s-27e in the Jasmine area, Kern County. Drill site on the east offsets production developed by Pacific Oil & Gas Dev. Corp. The Mayflower organization is headed by J. W. Rice and Fay Wright, geologist.

Blackwells Corner Wildcat Scheduled

Under the sponsorship of Independent Exploration Co. a new and interesting wildcat campaign is developing at Blackwells Corner. Location for O.L.C. No. 1 has been staked in Sec. 31-26s-18e on a lease embracing approximately 16,000 acres from Occidental Land Co. Independent is understood to share interest in the play with Superior Oil Co. Several test wells have been outlined for the area. Independent's Layman No. 2 in Sec. 18-28s-20e on the McDonald Anticline has been completed at 1638 ft. for 19 barrels daily, cutting slightly. Swan No. 3 in Sec. 15-28s-28e in the Sharktooth area is bailing from 2764 ft.

Comanche Point Venture Drills

In the Comanche Point area, Apex Petroleum Corp., Ltd., is prospecting at 2201 ft. in Herring No. 1 in Sec. 14-23s-29e. Los Lobos No. 5 in Sec. 5-10n-22w in the San Emigdio area is drilling at 710 ft. Continental Oil Co. has abandoned

K.C.L. No. L-2 in Sec. 5-11n-21w at San Emigdio. The project went to a total depth of 13,175 ft. Cherty shale was topped at 11,390, tight oil sand at 12,155 ft. and oil sand at 12,242 ft.

Cuyama Valley Activity Brisk

Cuyama Valley continues to draw exploratory interest. Frank and von Klahn, who drilled earlier in the area without commercial success, are rigging up Indian No. 2 in Sec. 23-11n-28w. F. R. Anderson & Associates' Colgrove No. 2 in Sec. 30-11n-27w is down 2787 ft. and repairing equipment. Six miles east of the Colgrove project, Bandini Petroleum Co. has spudded Azzarello No. 1 in Sec. 34-11n-26w and is drilling ahead in surface formations. Ned Barmore's Woods No. 1 in Sec. 9-10n-28w is a duster at 3025 ft. Richfield Oil Corp.'s Russell No. 1 is coring and drilling ahead in Sec. 5-10n-27w at a depth of 3945 ft. The company's Koch No. B-1 in Sec. 29-11n-28w is grading location.

Sunset Try Scheduled

On wildcat ground approximately three-quarters of a mile from production, Honolulu Oil Corp. has staked location for B & M No. 82 in Sec. 10-11n-24w in the Sunset area.

Terra Bella Try Drilling

Hudson-Fay No. 1 wildcat, sponsored by Hudson Oil Co., Inc., on Sec. 24-22s-27e at Terra Bella in Tulare County, is drilling steadily ahead at 779 ft.

Arvin Test Drills Ahead

British-American Oil Prod. Co. and Capital Co.'s Kovacevich No. 58-A, a test well in Sec. 26-31s-29e in the Arvin area, is drilling ahead at 5736 ft. Location for Beer No. 11-22 has been staked in Sec. 22-26s-19e at Blackwells Corner.

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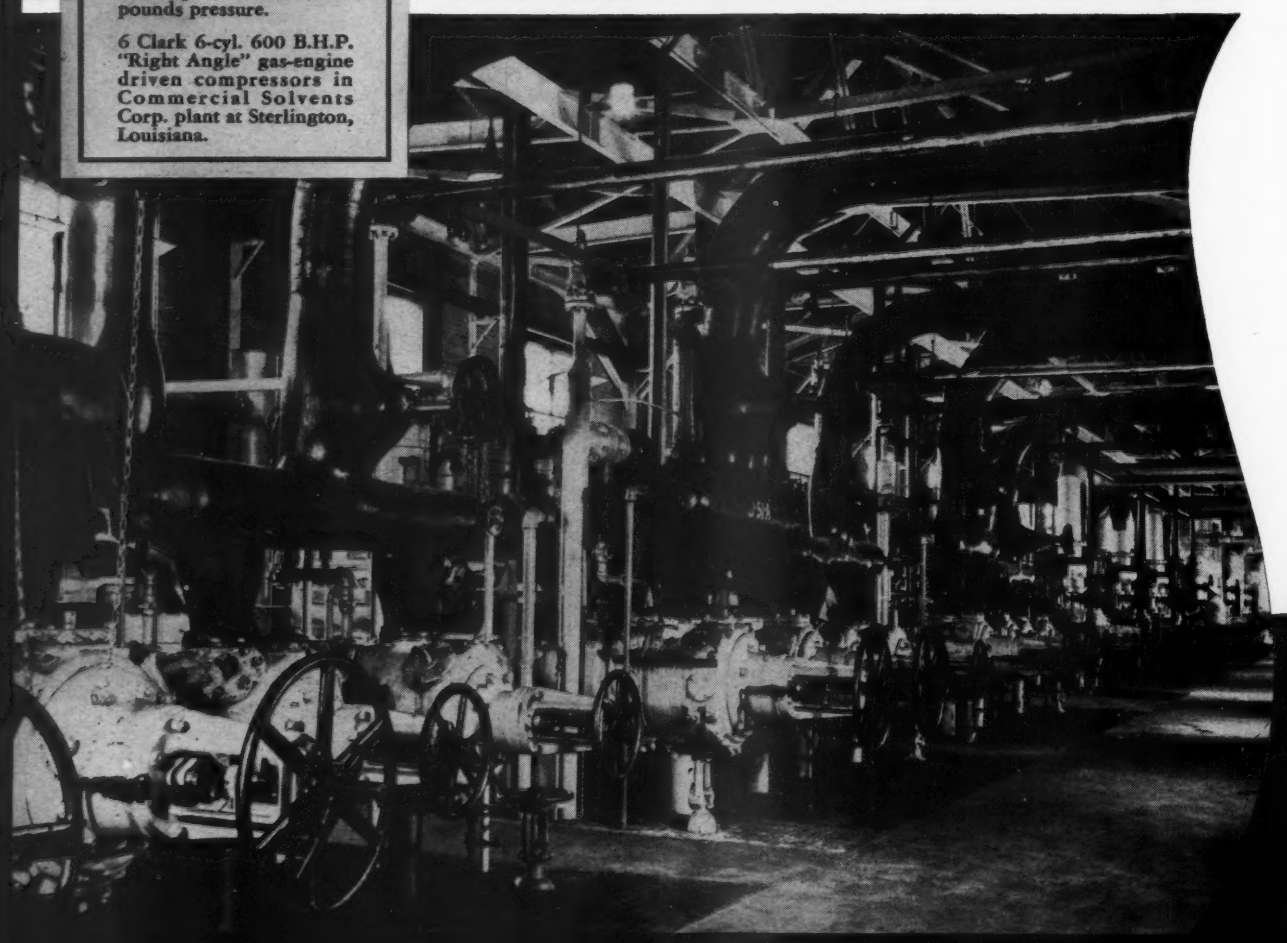
6 Clark 6-cyl. 600 B.H.P. "Right Angle" gas-engine driven compressors in Commercial Solvents Corp. plant at Sterlington, Louisiana.



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Taking the gas at atmospheric pressure, 8 Unaflow Compressors—Clark steam-engine-driven 8-cylinder units developing 2,790 B.H.P. each—pump it up to 5,200 pounds pressure.

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Coastal and Northern District

Dos Palos Try Starts

Approximately five miles northwest of Dos Palos, Tide Water Associated Oil Co. has made location for Azevedo No. 48-29 wildcat in Sec. 29-10s-12e, Merced County. The area was interrogated some years ago by Shell Oil Co. with Alberti No. 75 about four miles northwest of the new location. The earlier explorer found nothing of oil interest to around 4300 ft.

Glenn County Gas Try Drills

Richfield Oil Corp.'s Afton Comm. No. 1-2 gas try in Sec. 3-18n-1w in the Afton area near Butte City, Glenn County, is drilling below 2600 ft. The company opened up the area to gas production four years ago.

Casmalia Try Grades

Alphonzo E. Bell Corp. is grading ground for Hansen No. 1 test in Sec. 24-9n-35w in the Casmalia area, Santa Barbara County.

Capitan Test Quits

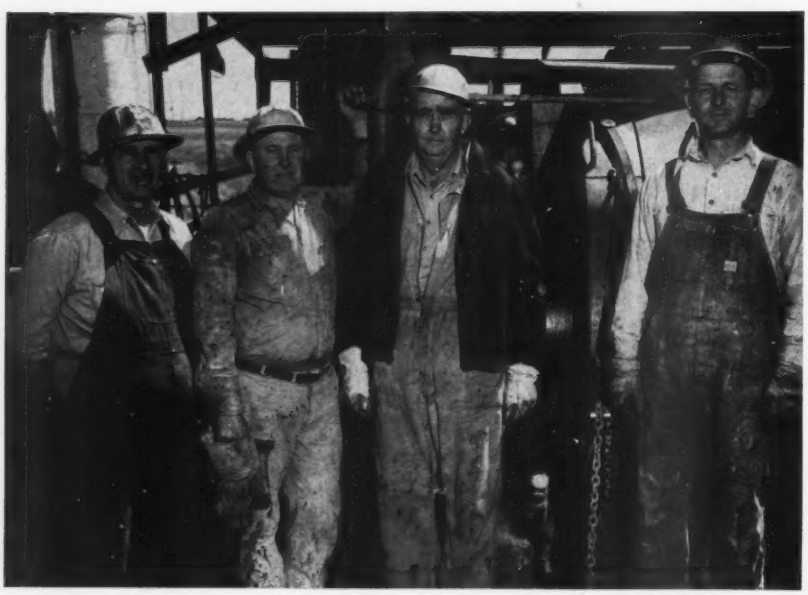
In the Capitan area in Santa Barbara County, Rothschild Oil Co.'s Careaga No. 1 wildcat in Sec. 36-5n-31w has been abandoned at 3900 ft. Flow on test was water and some gas.

King City Test Begins

About a dozen miles south of King City, Union Oil Co. has foundation for Keans No. 1 prospect job in Sec. 8-22s-8e, Monterey County. The company during 1930 drilled Page No. 1 wildcat in the area. It went to a little below 3200 ft. to a bottom in Vaqueros sandstone. South of San Ardo, Jergins Oil Co. and North American Oil Consolidated Oil Co. combination has staked location for Hamby No. 1 in Sec. 18-23s-11e. The combination's Orradre No. 1 in Sec. 12-23s-10e, which flowed gas and a spray of oil from 2225 ft., has been shut in.

Guadalupe Try Pumps

Continental Oil Co.'s Sand Dune-LeRoy No. 2 in Sec. 2-10n-36w in the Guadalupe area northwest of Santa Maria at last reports was pumping 26 barrels of 11.4 gravity oil, cutting 60.3 per cent. Plugged bottom is 2755 ft.



In the Dominguez Field at Union Oil Co.'s Callender No. 113, Severns Drilling Co. contractors. Left to right: J. M. Fry, cat head; O. R. Combs, derrick; "Slim" Adney, driller; C. W. Dodd, lead tong.

Simi Test Runs Log

Electric log has been run and deepening may be the next move with Cal-Ven Petroleum Corp.'s Wiekhorst No. 1 in Sec. 11-2n-18w at Simi, Ventura County. Present bottom is 2950 ft. M. H. Marr's Marr Ranch No. 1 wildcat in Sec. 30-3n-17w is drilling at 1205 ft.

Solano Try Idle

Following an electric log survey, Shell Oil Co.'s Harper No. 1 in Sec. 14-4n-1w in the Kirby Hills area of Solano County is standing idle at 7500 ft. Meridian Unit 2 No. 1 in Sec. 17-9n-1e in the Meridian area in Yolo County at a plugged depth of 3440 ft. also is idle.

Olivera Canyon Wildcat Testing

Formation tester is being run in Pacific Western Oil Corp.'s Williams Holding No. 1 test in Sec. 18-9n-32w in the Olivera Canyon area, Santa Barbara County. Union Oil Co.'s Wickenden No. 2-28 in Sec. 28-9n-42w is drilling at 2115 ft.

Zaca Area Still Active

Tide Water Associated is about to complete at 5315 ft. its Luton No. 93 in Sec. 29-8n-33w in the Zaca area, Santa Barbara County. Chamberlin No. 22 in Sec. 33-8n-31w is drilling below 4750 ft. Davis No. 24 is rigging up in the section.

Lompoc Try Drills On

Drilling is continuing at 4490 ft. in Union Oil Co.'s Crandall-Government No. 1 test in Sec. 11-7n-33w east of the Lompoc field. On formation test of the interval of 3375-3884 ft. sulphur water was recovered.

Conejo Try Repairs Rig

Repairing equipment is the present status of Ti-Bell Drilling and Roy's Janss No. 1 wildcat in Sec.

33-2n-19w in the Conejo area, Ventura County. The hole is 6939 ft. deep.

Shiells Canyon Test Deepening

T. T. Oil Co. has reached 2323 ft. with its Hickler No. 1-A deepening job in in Sec. 22-4n-19w in Shiells Canyon, Ventura County. The project started deepening from 1185 ft.

Goleta Try Drills Ahead

Honolulu Oil Corp.'s Honolulu-Signal-Macco-State No. 309-2 is making hole steadily ahead at 9670 feet. Location falls in Sec. 19-4n-28w in the Goleta area.

Tar Creek Well Tests

Near Tar Creek in Ventura County, Republic Operator, Inc., is testing water shut off in Brunton No. 1-A in Sec. 29-5n-19w. Total depth is 4743 ft., with casing cemented at 3648 ft. The company's McGregor-Agnew No. 7-1 cable tool job in Sec. 7-4n-21w at Ojai is down 466 ft. Richfield Oil's Ojai No. 36 in Sec. 14-4n-22w is spot coring at 3765 ft.

Ventura Try Idle

Two Ventura County test wells continue to stand idle. They are Eagle Rock Petroleum's Eagle Rock No. 1 in Sec. 36-5n-20w at Sespe, and T. M. Gibson's Portillo No. 1 in Sec. 26-4n-21w at Santa Paula. Respective depths are 1329 ft. and 3610 ft.

Montalvo Try Fishes

Standard of California's Eastwood No. 1 test in Sec. 33-2n-22w, the lone project in the Montalvo area, is fishing stuck drill pipe. The top of the fish is placed at 8433 ft., with hole bottomed at 11,027 ft.

Orcutt Well Grades Location

Rice Ranch Oil Co. is grading for its No. 1 in Sec. 19-9n-33w on the West lease at Orcutt. Union Oil's Hartnell No. 9 in Sec. 23-9n-34w is preparing to pump from 3100 ft., after flow died. The Hartnell lease has been producing for more than 44 years.

Coalinga Test Digs

In the North Coalinga area in Sec. 1-19s-15e, Sharples Oil Corp. is making hole ahead at 8116 ft. with Fleishacker No. 84, which is seeking new oil on wildcat ground.

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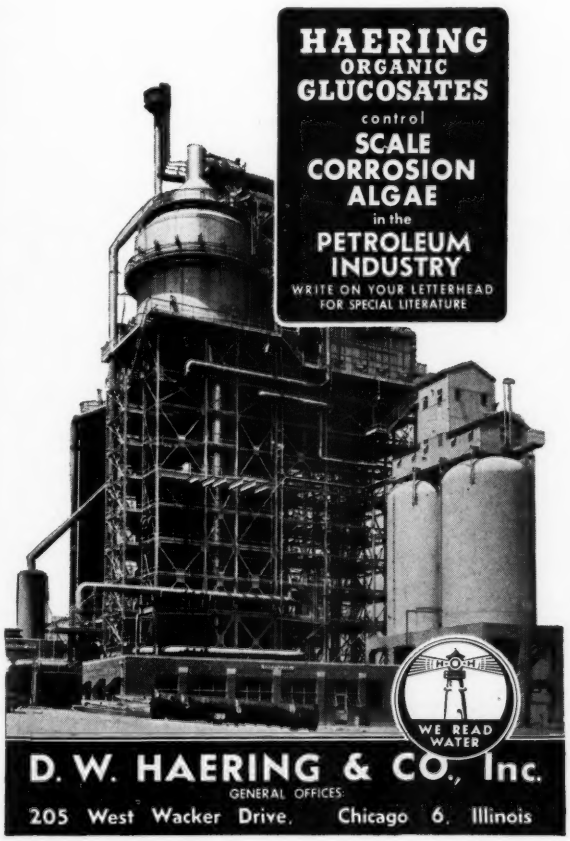

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Kern County OIL NEWS

ALWAYS INVESTMENT CONSCIOUS, Kern oilwigs last month were jubilant in many ways. Old DOW JONES broke through the high of last July. The Market was "Bull" and the operators all along the line down to the thrifty ruffneck knew what to do.

However, many an oilman in Kern can remember that this flight of industrials can wreck the proverbial china shop. And so no one is silly enough to employ this bovinishness as a hitching post for the future or even a parking meter for the present.

WHAT WAS EXCITING nevertheless was the way fish are still biting up the Kern River's country, and predictions of hot days ahead after May's cooling screwball weather. Oldwigs hoped for peace signs abroad so that present prospects for stability could be realized.

SPEAKING OF INVESTMENTS and their subsequent profit from turnover, how about a little side light item from home where dividends mark the lesser risk of return from less risk capital. We have in mind the Kern County Bank which according to Vice President Crossan has declared a semi annual dividend of $1.50 per share to stockholders. This is an increase from a former dividend of $1.25 per share.

KERN COUNTY BANK has 10,000 shares of stock outstanding with a par value of $25.00. The directors also increased the interest rate on savings deposits to 1½% annually, payable June 30. Amounts in excess of ten thousand dollars on deposit will draw an interest rate of 1¼%.

PROOF OF THE PUDDING is in the picturization thereof instead of the eating in these modern times. Our statement that a successful farmer always has an extra oilwell or two pumping just around the corner is now proven up down around Arvin way. Old Bear Mountain in the background seems to help lend an ear and bear us out. Damming up that Sycamore Canyon to the left of old Bear Mt. might help reduce the tax load that flash floods bring to the lush valley, lands, roads and sumpholes. Majority of Kernoilwigs favor a District Flood control tax to make for conservation as all would have to take part in the program.

BY THE WAY this is the 22nd week of your BUY A $1000.00 on Easy Payments and you should have $103.84 in your book and this is ten percent of the 182 week trip gone already . . . Providing you have started, that is.

TUPMAN KNITWITT CLUB has nothing on the knitting wit of the starved and hungry noonday club of oilwell supplywigs who meet and eat and wager who pays for it at Waynes Dairy. (Should be called Waynes DIARY since a daily record of what goes on would excite the press).

We refer to that meeting with Mayor Jake Vandelei, Pete Gigneoux, Charlie Lake and auditor, Larry Miller and your scribe. Chief topics were Tulsa Show, Price of Oil, Arabian pipeline, parks, advertising, thrifty cats and pinball machines. Miller had low gross score and was stuck for the sandwiches.

INTERESTING NOTE on Tulsa reservations was a telegram to the effect: "We are now taking reservations in private homes not more than 30 miles out, send us your requests and needs, Tulsa C of C."

HENRY BARNES in Taft who led the appeal along with Judge Anderson of Maricopa to get Chief Lampton acclimatized to "drivers license" needs on the Westside, reports that all the wind has been taken out of rather successful sails (sales that is) by the Chief's up and resigning to go into business. Henry still lays some claim to the fact Taft seems nearer to having an office all of its own for its 30 thousand who depend upon oil for a livelihood and have not too much time to take off to run to Bakersfield for a license to drive a car.

IMAGINE OUR SURPRISE the other evening when we met Mrs. Bill Barbat with Bill at the El Tejon post dinner session of the S. E. P. M. Friendly, youngish, petite, and seemingly not a difference in 21

years, Mrs. B was telling us of her son who will vote for the first time. Bill looks as young and we were wondering if may be we ourselves are just getting older faster. Bill said his longevity was not particularly enhanced at Washington "DC" hearings for Standard Oil. He had been working time and a half and more for good old Elk Hills.

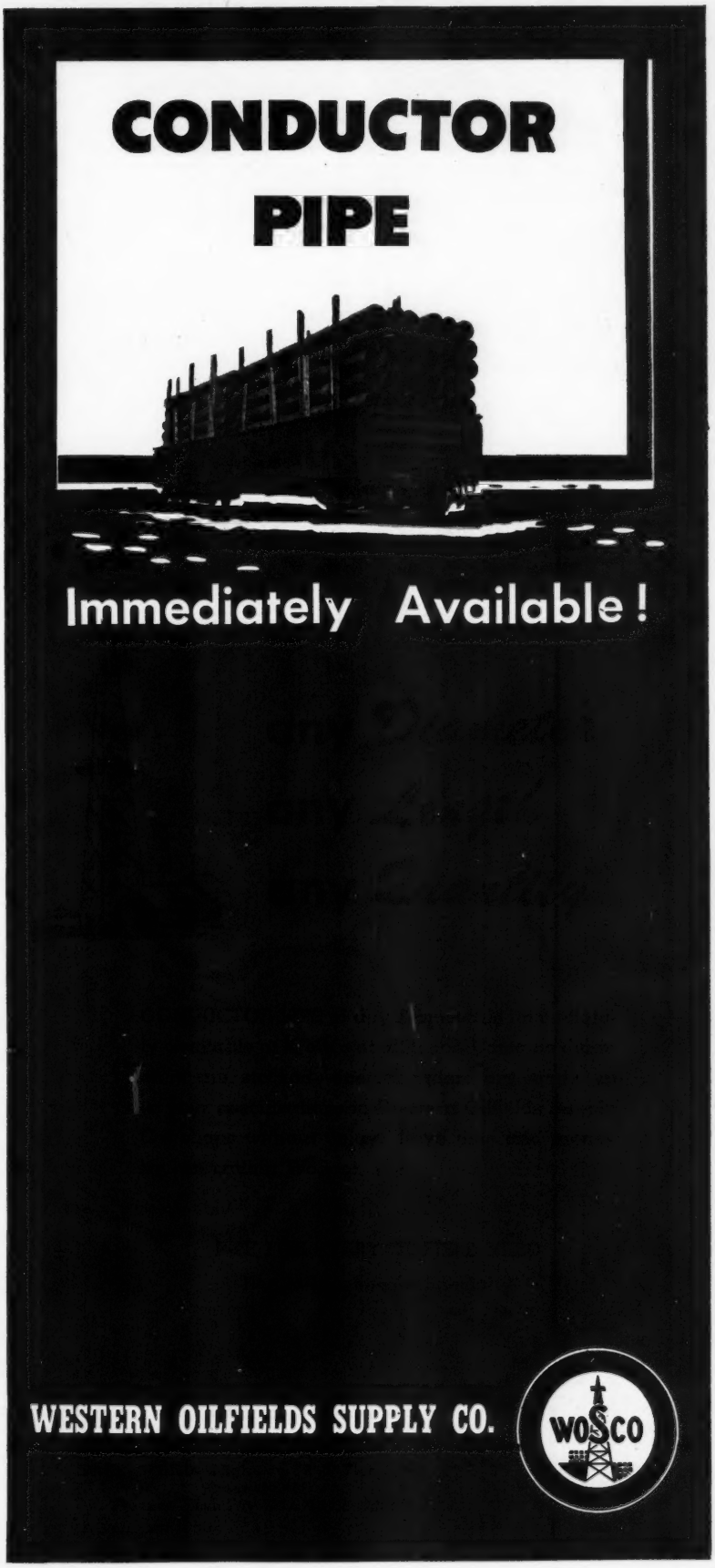
"THANKS TO COW," said one oilwigger this week when he learned that efforts are being made to get the State and Counties to do more about exhibiting oil at fairs and expositions. Oil always a fast depleting resource offers an excellent opportunity for conservation education practice. The average person even in Kern thinks the county is over a gigantic pool or lake of oil. Such is not the case for oil has to be gathered and harvested . . . even cultivated and gently groomed lest one loses it before it reaches the surface.

ARTHUR S. CRITES, brother to ANGUS is packing his grips for Philadelphia where the atmosphere in June and the climate even later will be a rapid departure from genuine "brotherly love" that caused the city's name. ANGUS reports that **his** oil has a different gravity than that produced by political party conventions, but both run into production costs and storage problems.

WHEN A FELLA NEEDS a friend . . . is when the bass are biting at Little Lake . . . there is a three day holiday . . . your salesman and office manager are already up there and they write back for an outboard motor . . . and more bait. So the boss takes off the washing machine motor and flies it in . . . and the wife returns from a suddenly ended vacation to do the family wash.

Well it was not quite that bad, but Owen Johnson of the Valve Shop by the same name even called the "scribe" for an "SOS" on a boat for Little Lake . . . he even offered to bring back a bass. Owen, it is said learned how to repair valves by shutting off a fish's water. You guessed it, Hector and Bray went with him.

WELL, HARRY A. HOPKINS, tax consultant for Kern's interests is making "taxhay" while the poli-



ALL IS NOT OIL THAT CORES, according to PAT TOWNSEND and SAM PRATHER, chemists for the famous and only HORN-KOHL LABORATORY. In this process service of distillation shown will be water content and oil and water ratio. Other processes show salinity, porosity, saturation and permeability. Finally comes the interpretation of the results as the last action required.

tics shine. Now Kern is to have a separate Administrative office from the Personnel department.

RIGHT NOW AND HERE lets say something more about Harry Hopkins. He is an example of how to make friends and keep them. He only speaks when spoken to as regards tax affairs. He used to be the fear of annual budgeteers but now their best friend . . . no head of any department would make up a budget without giving Harry a ring for his help. One thing certain is that were it not for the 50% increase in population and government costs because of mandatory services . . . you can wager that his good work might be more reflected come every July 1. As it is we who watch these things know that good economy makes good government and a smooth popular operating department. Harry is reasonable and able and is not afraid to make increase approvals where progress obtains and economy is going to result and favor supplied the administrator. The oil and farm people as well as officials and heads of county departments in Kern have come to recognize a man who is a tower of intelligence and fairness in community building and good government and **better taxes** . . . if not less.

SEPM or S.E.P.M. held its annual "hike" again in Kern . . . this time to again as before to try and explore . . . the "rocks" of the southern portion of the San Joaquin Valley . . . in further look for oil. These SEPMites were headed this time by TED LEE of Barnsdall. R. B. KELLY of Continental and J. Q. ANDERSON also of Barnsdall. Destination: SAN EMIGDIO CREEK . . . perhaps you have seen the Continentals new slimmering derrick hard by the Airline Highway near U.S. 99 on way to Maricopa.

After talking geology at Masonic Temple following dinner at Bakersfield Inn the huge delegation did a little social engineering along with public relations, preparatory to a field trip next day. Society of Economic Paleontologists and Mineralogists is a division of the American Petroleum Geologists Association. Although highly technical a few laymen get enough religion and social engineering to warrant them to speak freely on a subject they know nothing whatsover about, without fear of contradiction, and we never talk back.

SEE WHERE THE Kern Drilling Company with Dr. Grant Corby and A. E. Ireland as consulting geologist and drilling superintendent are developing shares in CALTEX. This firm is alleged to have been or is jointly owned by Standard of California and of Texas and has a substantial stock interest in the PHILLIPPINE OIL DEVELOPMENT COMPANY INC. This

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latter firm was formerly the Far East Oil Development Company. Some of the Kern folk investment-wigs were asking questions the other day. We give no such advice on matters of this kind, matrimony, candidates for office and where the next oil field is likely to be in Kern.

HOWEVER, to many an oil operator looking for a secretary we can recommend an ex-Yeoman of the navy and if things get any worse, and they may as regards secretarial hire, we are going to ask D. W. Worsley (Don) secretary to Chief of Police HORACE GRAYSON, Bakersfield, to send us a World War II list of those he met during the early forties that could spell.

RICH IN HISTORIC LORE makes Kern wealthy in tourists lure. With the swansong of spring and the heat wave shimmering of summer we see more tourists but less lure. The lure is beyond Kern . . . and this of course reminds us that ISABELLA DAMS a public ground breaking of which on May 29 last opens up more ideas less historic now, but epical in the future. The dam elevation was recently raised and that points to a thought that more recreation facilities may be in the offing. Meanwhile Kern's nationally known 19 historic land marks continue to draw upon the urge of the citizenry everywhere to step on the starter and go have a "look see" . . . thereby establishing another tourist gone "along."

MIDWAY FISHING TOOL'S Jovial John Meagher, District Manager and Friends. DON HOLLINGSWORTH, Superintendent of OHIO OIL AT RIGHT lets the cameraman interrupt a good story.

"MANLEY MAKES MAUNA LOA" . . . according to a dispatch to oilfolks back home from Honolulu. Most of us thought it was a new kind of a drink or dish to serve in the new Kodachrome room, but we found out from neighbors that he had made it up to the top of a volcano . . . in Hawaii. We wish it would warm up so that we can get over Hilo fever. In the past month three of our neighbors have gone to the Hawaiian Islands and you know that what the Jones' do, influences the wife who wonders why her worst half is not able to sight draft the Bank of Bishop for transportation. Godspeed to Charley Manley of the Oil Fields Construction Company. May he and Mrs. Manley bring back the pictures we are all expecting. Then we will wait for the invitation, tear up a hundred dollar bill and make ourselves believe we were there.

GOING TO FRESNO the other day, C. A. (Chet) James, Planning Engineer and Al Trowbridge, irrigation engineer for Kern County Land Company, passed the WESTERN OILFIELDS SUPPLY

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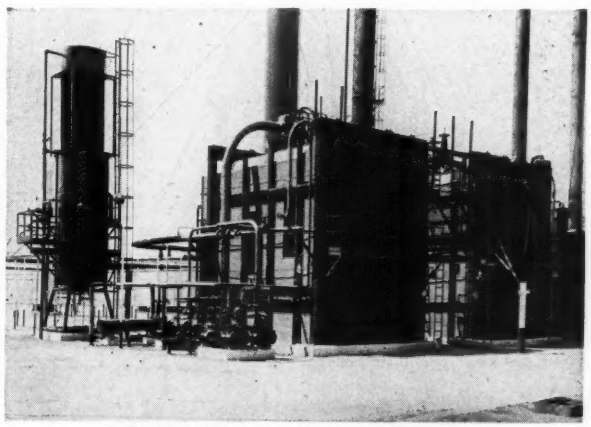

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COMPANY'S vast plant on U.S. 99 and both paid their respects to the huge operation which obtains there. This was used as a model of what "goodwill" toward things that make progress, can do.

AN OLD SAYING, "one good turn deserves another" has been used by politicalwigs as "one good **term** deserves another" . . . but the person who really practices it . . . is none other than JOHN MEAGHER of the Midway Fishing Tool. Some of the boys along his baliwick have been doing good and telling about it by letting folks know through the press, radio or "COW" and its Kern County Oil News. . . . So John, who believes one good ad or one good story deserves another is trying it out for the first time. When we saw him he was quite pleased and said that enough new requests for information about his business makes him feel we ought to tell a little bit more about it. . . . So to next time.

F. R. KALLOCH of the Johnston Body Works is vacationing in the Santa Cruz mountains. Mrs. Kalloch is attending a fraternal

TED WALTIMIRE specialty oil well tools salesman was formerly with National Supply Company and for a time after leaving NSC he was in charge of sales for Johnson Valve Company here. Ted who has grown up with oil tools represents GEARENCH Manufacturing Company Johnson Blocks, Petol Tools and Titan Tongs. Ted is a Scoutmaster and a Rotarian out at Oildale.

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convention. And we see by the local Bakersfield Californian that she, Drissila Kalloch, thirty years ago was elected grand junior of the state Pythian Sisters. The Kallochs have long been identified with the oil industry in divers ways.

TINE GAISER, who picks up his own mail at the postoffice and mails it may have the secret to keeping a good and efficient secretary. The other day we saw him and he gave us a cheerful friendly salute from the postoffice steps. We couldn't help but think that his secretary is the one who keeps him happy. He gets his work done. We were there the other day and in a very highclass and diplomatic manner the Secretary helped us help Tine get his mail and reports out on time. In the meantime she issued warning notes which seemed to say, "make it brief" for Mr. Gaiser is developing the much needed resources of Kern County and has a deadline for the prosperity of this county . . . please help him." How's that for a reporters report.

THE CHINA CLIFFS of Panorama and La Cresta are monuments to an orderly unseen development for oil as drillrigs and oilwigs slant for oil at the bottom of the precipice.

FRANK M. MILLER, transportation superintendent of Honolulu at Taft is a fine friendly fellow. A champion for justice, fair play and fun all in their proper places at the same time if possible.

Well, anyway as you may know the famous Bohemian Club at San Francisco was a locale for a "QUARTER CENTURY PARTY" by the company with A. C. (Bert) Mattei conducting by remote control from "DC". (It so happened that Bert could not be present but he talked to them personally by long distance.)

April 19 was the date set because it was the anniversary of the incorporation date of the Honolulu Consolidated Oil Company. Each year in the future it is contemplated that all 25 year men with the company will thus be favored. In addition Frank reported he received a gold watch.

The "Twenty-fivers" were promised the sky and got it. Nothing was to hold them back except a divorce and a doctor. No one was to be docked for time off to, at and from the party . . . especially if anyone got lost. Frank was the last one home because he was elected Captain of the Day for sight seeing.

FROM BAKERSFIELD went D. D. Bond, Guy Draper, C. K. Holt, G. I. Self, C. E. Raper, with J. H. Allen, E. C. Bachman, J. C. Burke, O. E. Cunningham, J. Holden, J. W. Powell, D. A. Shank, A. R. Specht, H. S. Stark, C. W. Tweddell, H. M. Van Clief, H. C. Webber, H. Wegis, J. E. Williams and F. M. MILLER from TAFT. They met L. A. Cranson, H. E. Knoles, W. P. Roth, Robert H. Wright of SAN FRANCISCO, and all talked over longdistance to A. C. (Bert) MATTEI at the "TWENTYFIVER" tournament of service years for HONOLULU OIL. A total of over seven centuries of manpower was exhibited since many had been employed longer than the 25 years. Frank Miller expects a bill of sale from the city manager of San Francisco, because the captains' log shows they re-raised, built and purchased the principal assets of value and interest of the City by the Golden Gate.

CONGRATULATIONS to these men who have done their share to make Kern County great and stay great.

VISITOR TO KERN last month was none other than S. C. JOHNSON himself and one of his sons . . . the makers of Johnson's wax. The paraffine might have come from oil, but nevertheless it was not for floors . . . Yet it floored the most of us . . . it was for **potatoes** . . . Kern County, thin skinned shallow eyed long white potatoes . . . now may be preserved and kept Kern field fresh by dipping in wax. It works and it has been a big new asset to the spuds. They ought to come in wax, their price is high enough. So now folks that little "doodler" on the end of the sorting line after the wash, is the "spud-waxer." This week with scientists aboard and other doctors of degrees, a trainload of special spuds went exploring across country without maximum icing. Even the "spuds" are tearing a page from the success book of oilwig experiments ever probing from cliffs and rocks to ocean depths.

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(24 Hour Number)

AS WE GO TO PRESS we can now say, "THE HOT CAME" and Kern County is all dressed up for summer as Bakersfield celebrates its Diamond Birthday.

W. E. (Jimmie) JAMES, the California State Assembly's only known geologist lawyer member, spoke before Kern County's 135th Community Needs roundtable last month respecting the TIDELANDS bill before Congress. Two years befor the Legislature has matured Jimmie James as it did Tom Werde now making a jump for member of Congress as representative of Kern, Kings and Tulare counties . . . the Tenth District.

C. W. BRADBURY, chairman of the Board of Supervisors, Santa Barbara, received Kern delegates recently on a matter suggesting one single water agency for Kern's seven different districts. Oil is interested only in that development of water will develop more valuable land and lessen the burden of taxation when costs are distributed on a wider structure.

PUBLIC HEARINGS ON THE KERN budget will begin June 16 for all those who should be interested.

EVEN THO you may know it too it is good to occasionally point up the resources of oil in the world as compared with various countries. For instance the figures on proven crude reserves that show some percentage something like this:

U.S. 31.2
VENEZUELA 10.4
Others 3.4
MID EAST 40.8
RUSSIA 11.4
OTHERS 2.8
Western Hemisphere 45%
Eastern Hemisphere 55%

to make it a hundred per cent or thereabouts in round numbers. Kern used to be equal to Burma and about 3% of the world's production. New figures will not be available until JUNE 10 this year for Kern County.

DID YOU KNOW that C. R. (Chuck) Ball has left Hillman Kelley and now has the BALL & BLACK SUPPLY Company. He has to still come back to Kern for business and the other day his old firm gave him some they could not handle.

CERAMICWIG Walter C. Vilas, D.S. is one of the fellows from Fellows who made good in dentistry at the county seat of Kern and now is a creator and manufacturer of-hand fashioned statuettes that have gone around the world in demand. Few if any ceramic engineers or designers have had the phenominal growth that Doc Vilas has had in his venture with risk capital along such lines.

AN HISTORIC DOCUMENT: "At the last regular meeting of the San Joaquin Valley Geological Society, it was moved, seconded and voted unanimously that our organization go on record as favoring the presentation of a petroleum exhibit at the California State Fair and Kern County Fair. Further, it was suggested that we indicate our willingness to act in an advisory capacity and provide whatever counsel may be necessary." **Robert L. Rist, Secretary Treasurer.**

A SPLENDID OPPORTUNITY to present to the public that the oil industry is concerned with things other than service stations, and it is hoped WHOM THIS MAY CONCERN will cooperate in making possible a petroleum exhibit that is creditable to the County and State. This was in substance the contents of the last paragraph of a letter containing "an historic document" as it were to a score of interested concerns. It is high time Californians gave attention to its most valuable industrial asset, PETROLEUM.

CONSERVATION COMMITTEE meeting next in Bakersfield June 16.

FRANK HORNKOHL LABORATORIES is proving up everything we said about it throughout the years and business is still around the clock. Frank still has time to tickle the ivories and head up interest in local musical societies for cultural development essential to Kern Industry too.

Progress is the American Way of life. The petroleum industry IS progressive.

THIS LAUGH OFF!!

Bill: "What do you do when in doubt about kissing a girl?"

Bob: "I give her the benefit of the doubt."

A somewhat supercilious bachelor was invited to dinner by a lady of his acquaintance, but did not accept. A few days later, seeing her at a party, he strolled over. "I believe you asked me to dine with you last Wednesday," he said in his best manner.

The lady looked at him thoughtfully. "Why, yes—I believe I did," she answered brightly, "and did you come?"

A young policeman was undergoing an examination.

"Now assume," said the examiner, "that you were walking along a secluded path, and a young woman rushed up to you and reported that a strange man had just embraced and kissed her—what would you do?"

"Well, sir," said the candidate, "I would do several things. But first, with the young lady's assistance, I think I would endeavor to reconstruct the crime."

"Look, dear, how picturesque! The Smiths are bringing in an old Yule log."

"Yule log my eye! That's Smith."

"An excellent presentation, Luther! I can't give you a raise but I'd like to have you make one of those charts for ME!"

Miss Smith: "I know he's rich, but isn't he too old to be considered eligible?"

Miss Graham: "My dear, he's too eligible to be considered old."

The nurse beckoned to one of a group of expectant fathers who were nervously waiting outside the delivery room. "You are the father of a fine eight pound son," she said.

Another man rushed up to her, and said impatiently, "What's the idea? I was here before he was."

Second Floor Page Boy: "Call for Mr. Niedlspronstrevnok, Mr. Niedlspronstrevnok."

Mr. N.: "What's the initial please?"

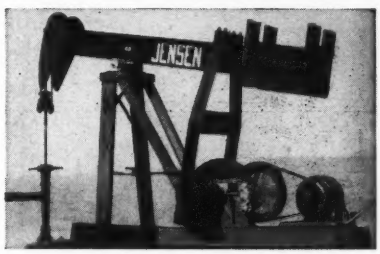
We have never been able to figure out why a woman who complains of having nothing to wear takes so long to put it on.

When a pretty girl got on the crowded bus, a pale-looking fellow started to get up. But she pushed him back into the seat, and said she preferred to stand. Again he tried to get up and again she pushed him back. Finally, he yelled, "Now listen, lady. I passed my stop two blocks back—let me out!"

I see no evil; I hear no evil; Boy —am I a sissy!

Customer: "I'd like a dollar dinner, please."

Waiter: "Yes, sir—on white or rye, sir?"



Standardize on JENSEN for Satisfaction and Economy

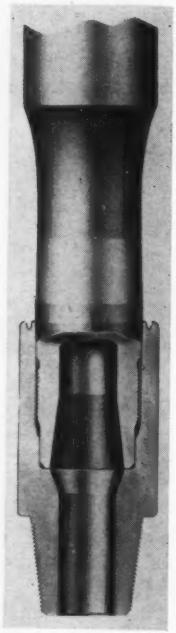
Whether you have one or several hundred wells, it will pay you to standardize on Jensen. The purchase price is unusually reasonable, design is based on 28 years of field and manufacturing experience, and the few spare parts—if any—that you might need will always be available.

Performance figures show that Jensens cost less to operate and your near-by Jensen dealer can prove it. See him or write Coffeyville.

Stocked by
THE OIL TOOL CORPORATION
3075 Cherry Ave., Long Beach, Calif.
Phone 481-81

JENSEN BROTHERS MFG. CO.
COFFEYVILLE, KANSAS, U.S.A.
EXPORT OFFICE, 50 Church St.
New York City

American Iron Drill Collar Tool Joints



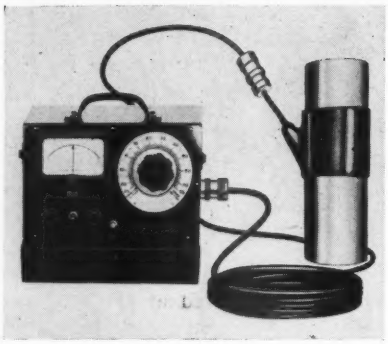
Special "Straight-Grip" Tool Joints are manufactured by American Iron for Drill Collars. In this application the tool joint O.D. is always the same as the O.D. of the drill collar.

The connection cut on the drill collar for tool joint application is so engineered as to eliminate breakage from torsional fatigue, high compression or tension loads. This improved design, developed by American Iron engineers, imparts flexibility to the drill collar string, dampening transverse and longitudinal vibrations.

Easy, speedy field application and removal is made possible through the use of greatly improved equipment for this purpose. New type portable furnace used is entirely self-contained unit, and needs no connection to fuel lines.

Direct-Reading, High Accuracy, Electronic Weight Indicator

The Byron Jackson Oil Tool Division of Los Angeles, recently announced the availability of a new electronic weight indicator, model 500A, designed for measurement of any operation in which the tension load does not exceed 75 tons nor the compression load exceed 150 tons. Recommended for controlled setting of cement retainer, bridging plugs, fishing operation, etc., by rig operators or service crews.



Byron Jackson Electronic Weight Indicator Model 500A provides dial readings within 2% of the full-scale load.

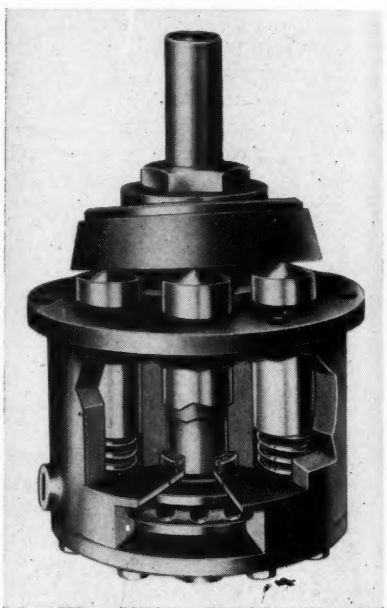
The new weight indicator operates on the null balance principle and translates electrical impulses from the connecting sub into precise weight readings. Provides coarse and fine adjustments of instrument balance. Subs are equipped with electronic strain gages and compensated for internal pressure effect.

The BJ Weight Indicator is available in the model 500A only, subs may be furnished in any size on special order. Standard sub is a 2½" double-box 8-thread round external upset unit. The instrument is available from the Baker Oil Tools, Inc., P. O. Box 2274 Terminal Annex, Los Angeles 54, California.

This new indicator is rugged and of simple design. There's no need to baby either the connecting sub or the indicating instrument. All leads on the sub are fully protected by a heavy, vulcanized sleeve of tough rubber. The working parts of the indicating instrument are within 2% of the full-scale load. Temperature changes have no effect on the accuracy of the readings. There are no changes in readings due to variations of fluid pressure within the sub.

Cannon & Company Introduce New Pumps

A new development in hydraulic pumps is the Dudley "Nutating Plate" piston type unit with rotary valve, now in production by Cannon & Company, Los Angeles. According to the manufacturer, the nutating plate for reciprocating the pistons without any side thrust whatever has been in use in the Dudley Pump for over eight years, during which time it has fully demonstrated its efficiency and long life.



Simplicity of design eliminates many of the parts conventionally used in hydraulic pumps. The only revolving unit is the driveshaft. Servicing is an extremely simple operation and the pump can be disassembled and assembled by any high school boy. The Dudley Pump operates in either direction with one simple adjustment. The unit is compact in size and light in weight and is said to operate at higher than average volumetric and mechanical efficiency, at any given rating. Its

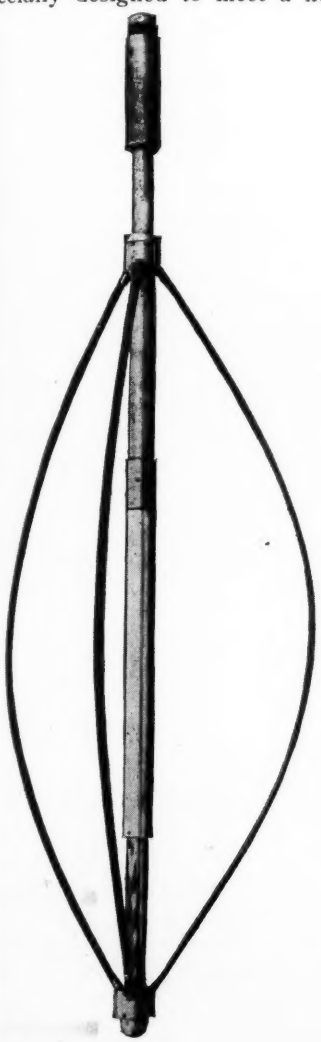
design eliminates all necessity for packing against internal pressures. Leaking or loss of efficiency due to packing failure is therefore impossible.

The rotary valve, an entirely new feature, is full floating and is hydraulically balanced. The Dudley Pump is manufactured in all capacities commonly used for hydraulic systems.

A new bulletin describing the Dudley "Nutating Plate" Hydraulic pump may be secured by writing Eastman Pacific Company, 2320 E. 8th St., Los Angeles 21, California, exclusive sales representatives.

Schlumberger Designs New Open Hole Section Gauge

The new Schlumberger OPEN HOLE SECTION GAUGE was specially designed to meet a need for an accurate hole gauge, of substantial construction, which could be run either up or down a drill hole without hanging up.



In most cases Volume is of first consideration in open hole studies. For this reason, the Schlumberger Gauge is designed to produce at the surface an electrical recording of hole size in terms of cross-sectional area. The volume of the hole can be quickly and accurately determined by measuring the area enclosed by the curve with a planimeter.

A knowledge of hole diameter is essential in open hole work which involves problems pertaining to fishing and packer setting. The hole diameter at any given point may be obtained by reading the log curve with respect to a graduated diameter scale located at the bottom of the chart heading.

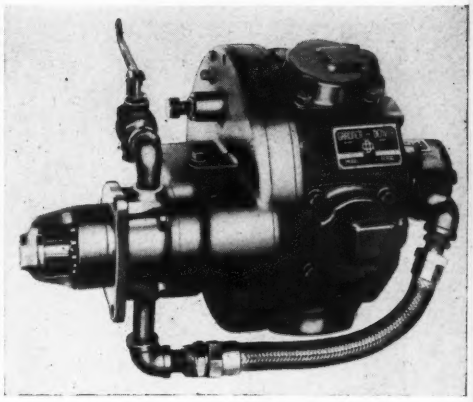
The instrument is run into the hole on the same cable used for electrical logging, and the log of the hole is available at the well upon conclusion of the survey. The time required for surveying a given interval of hole may be based on a running speed of approximately 6,000 ft. per hour. The springs on the instrument when expanded to their greatest arc will correspond to a hole diameter of 36 inches.

Gardner-Denver Announces New Air Starters

A new line of air starters for gas, gasoline or Diesel engines—including five sizes, developing from 3 to 15 horsepower on 100 pounds air pressure—has just been announced by Gardner-Denver Company at Quincy, Illinois.

The principal advantages of these air starters, Gardner-Denver officials explain, are their extremely high torque and the elimination of costly battery maintenance and replacements. The high torque characteristic of the piston type motor, it is said, makes it especially desirable for Diesel applications involving high starting loads, while the 5-cylinder radial design provides even torque through the operating cycle.

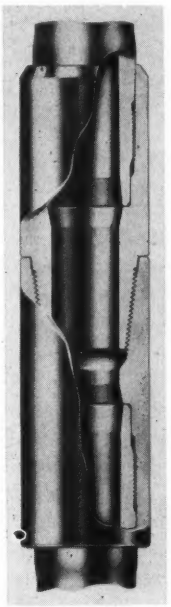
An exclusive Gardner-Denver feature is an air actuated starter pinion which, when the air valve is open, automatically engages the ring gear



Gardner-Denver Model MBGS 5-cylinder radial air starter.

a split second before the starter begins to crank the engine, thus assuring positive and safe engagement.

American Iron "Straight Gripup" Tool Joints



American Iron's new "Straight Grip" Tool Joints give 4-point protection of (1) Stabilizer Seal, (2) Thread Seal, (3) Inside Seal and (4) Shoulder Seal! Because of increased simplicity and efficiency of design, these "Straight Grip" Tool Joints are 3 times as strong as the pipe they connect! Engineered by American Iron, this advanced design makes all tool joints interchangeable with pipe ends of comparable size.

There is no need for selective fitting of joint to pipe when making installation. In addition, the American Iron method of field installation and removal is as advanced as the tool joints themselves.

New type, portable furnace used to heat the tool joint is an entirely self-contained unit, and needs no connection to fuel line of any kind. New equipment makes for faster, easier field installation and removal of tool joints.

Byron Jackson "Speed Trip" Power Slips.

"Speed Trip" Power Slips Are Pressure-Lowered And Pressure-Raised

"Speed Trip" Power Slips manufactured by the Byron Jackson Oil Tool Division are pressure-set as well as pressure-raised, by controls at the drillers post. With pressure-setting it is possible to get positive centering of the drill pipe, tubing, or casing.

The driller is in full control of the operation of the power slips. These slips in three years' service have proved themselves as substantial time-savers for the operator and measurably increased safety factors for the crew.

The capacity of the new power slips is limited only by the bearing capacity of the rotary table. All drill pipe, tubing or casing in all sizes from 2⅜" to 7" may be handled by proper sized slip bushings.

Air power is recommended for simplicity and efficiency. Recommended compressor capacity should provide at least 16 cu. ft. minimum capacity at 120 psi.

Tanner Plug Valve

The C. L. Tanner Co. Plug Valve is a non-adjustable, non-lubricated, free-turning valve designed to meet the requirements of the Oil Industry for drilling, cementing and producing.

Use of highly corrosion-resistant metals and special design entirely eliminates the possibility of the valve sticking or becoming hard to operate. Special alloy metals insure a low co-efficient of friction, which does away with the necessity of lubrication.

The plug is firmly seated at all times. Ball-bearings take the upward thrust of the plug while the valve is under pressure, and the downward thrust while the valve is not under pressure. The ease of operation greatly reduces the possibility of the valve remaining in a position other than fully opened or fully closed.

Cementers will be interested in the fact that the valve can be thoroughly cleaned without disassembling.

The C. L. Tanner Co. also manufactures a valve recommended for bleeding or choking. This is accomplished through an orifice which is field-replaceable. The only maintenance required is the replacement of the orifice. Lubrication and plug adjustment are not necessary.

The C. L. Tanner Co. Plug Valves are available in working pressures of from 3 to 5,000 pounds, and will be supplied in sizes of from 1" to 4"—both flanged and screwed.

For additional information write: C. L. Tanner Co., 520 West Seventh Street, Los Angeles 14, California.

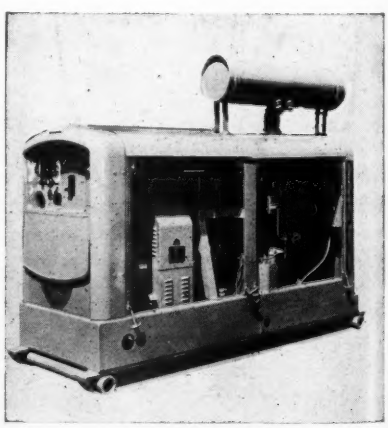
Anderson-O'Brien Appointed Distributor for "Regalectric"

The Anderson-O'Brien Company, Oil Field Distributors of General Motors Diesel engines, announces a new development in Rig lighting plants of 20, 25 and 30 KW capacity, which combines in a completely self-contained portable unit the General Motors two-cylinder Diesel engine and the recently announced Electric Machinery "Regalectric" generator.

In this new design the "Regalectric" voltage regulating circuit has no moving parts and maintains accurately pre-set voltage. The engine speed is accurately pre-set on a frequency meter by a vernier adjustment on the governor.

On the panel is provided the frequency meter, ammeter, voltmeter, circuit breaker, throttle control, starting button, engine meters and cold-weather starting aid, so that all controls are centralized.

The two-cylinder Diesel engine is rubber-mounted to minimize transmission of vibration to the frame



and coupled to the generator through a heavy duty double Morflex rubber coupling. Fuel tank and batteries are built into the unit so as not to interfere with servicing the engine. A Kittell Spark-arrester muffler was specially designed for the unit and mounted with flexible connection.

The 30 KW unit shown is 88" long on the skid mounting and weighs about 2,800 lbs. It was recently delivered to one of the major oil companies.

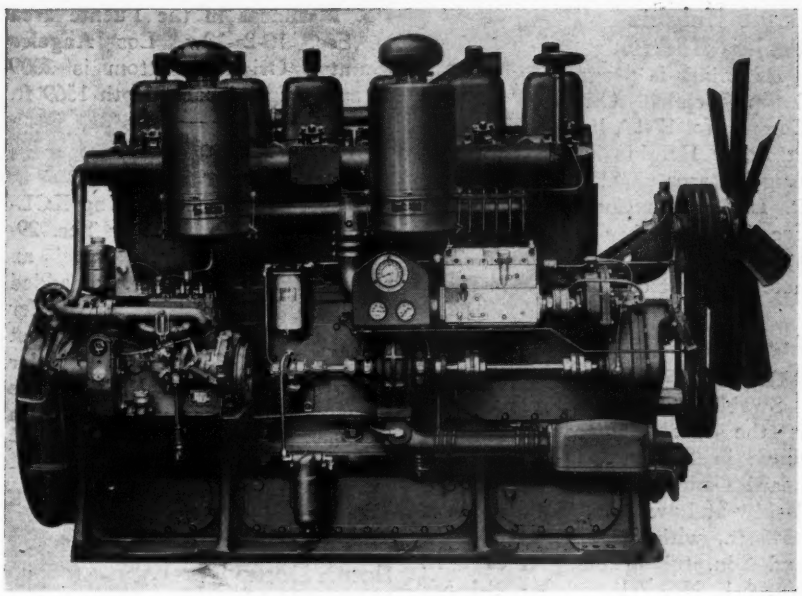
Waukesha Announces A New And Big Diesel

Timed to coincide with the opening of the International Petroleum Exposition and Congress at Tulsa, the Waukesha Motor Company announces the Model 6-LDR Diesel engine, adaptable to oil well drilling, cotton gins, logging, stationary irrigation, and electric power generation as well as semi-portable construction equipment.

The stripped engine is rated at 300 H.P. at 900 R.P.M., or as a complete radiator cooled power unit, at 281 H.P. at the same speed. Maximum output of the stripped engine is given as 330 HP at 1050 RPM, and of the power unit, 301 HP at 1050 RPM. The engine is 8½ x 8½ bore and stroke, six cylinders, with a displacement of 2894 inches. This is the size that has proved so popular in the large gas engine produced for the past ten years, and known as Waukesha Model 6-LRO.

The Diesel engine, Model 6-LRD, while it occupies approximately the same space as its gas engine counterpart, is entirely new from the crankshaft up. A large seven-bearing 5½" graphitic steel crankshaft is used, which is heat-treated and hardened to give crank pin and main journal hardness of 75-90 scleroscope index. The cylinder block is a husky one-piece casting into which are inserted the six hardened wet cylinder sleeves held in place by individual cylinder heads and head gaskets at the top, and the usual synthetic plastic rings at the base. Cylinders are of a special hardened alloy which test 400 Brinell.

The pistons are cast iron with six rings—(4) non-sticking wedge type, and (2) straight side oil control rings. A unique feature of the piston is the cooling of the piston crown by intermittent circulation of oil under pressure from the lubricating oiling system. Oil is led into the cavity beneath the piston crown through the oil ducts in the crankshaft, up the rifle-drilled connecting rod into the hollow piston pin. Through the piston pin, the oil is carried by a special duct communicating with the bearing boss and leading into the piston crown cavity. On the opposite side is a similar duct which terminates at the lower end of the piston in an opening normally sealed by the cylinder wall. As the cavity is filled on the up-stroke of the piston with fresh cool oil, it is retained to absorb the heat of combustion until the piston descends when the release passage registers with a slot at the bottom of the cylinder skirt and the hot oil is forced out by the pressure of the cool oil, replacing it from the engines oiling system. A restriction is placed within the cavity to speed up the movement of the oil on release, so that at the bottom of each stroke of the piston the under-side of the piston crown is scoured by the fast moving oil escaping.



The Waukesha Model 6-LDR.

The Waukesha Diesel combustion chamber ranks as the most important of the many outstanding Diesel features. Exclusive among American engines, this combustion chamber provides unusually lively, responsive acceleration, which has proved a revelation to many experienced Diesel operators; the engine's smooth freedom from shudder and vibration; its clean burning; its ability to make use of fuels in a wide cetane range; its high fuel economy; and its simplicity of maintenance, are some of the outstanding characteristics resulting from this exclusive design.

The engine as a power unit is equipped with large capacity waste-packed oil filters, large capacity fuel filters, built-in governor, American-Bosch injection system, and when so desired, can be equipped with an individual gasoline engine mechanical starting system. Flywheels and housings ranging from SAE 00 to 1 are available, as well as clutches, slide rails, safety shutdown and other accessory devices. A new bulletin just issued, No. 1454, gives full specification power, and installation information.

U. S. Oil Consumption

U. S. oil consumption is estimated at 600 gallons per capita yearly. This country produces and consumes nearly two-thirds of the world output of petroleum.

Boyle Heights Project Redrills

Redrilling is progressing at 3763 ft. in Richfield Oil Corp's Boyle Comm. No. 17-1A in Sec. 35-1s-13w at Boyle Heights in the East Los Angeles area. Old bottom is 4694 ft. L. A. River Comm. No. 1-1B in Sec. 34-1s-13w has been abandoned at a redrilled depth of 3209 ft. The hole was first carried to 4414 ft.

Lawndale Try Swabs

Swabbing and flowing by heads is the last reported operational move in Seaboard Oil Co.'s Seaboard Comm. No. 6-1 in Sec. 20-3s-14w at Lawndale. Total depth is 8246 ft., with 5½-pipe at 8243 ft. and 2-in. tubing hung at 8167 ft. No. 5-1, No. 7-1 and No. 8-1 are locations in the section. Johnson No. 4 will drill in Sec. 17-3s-14w. General Petroleum Corp.'s Powell No. 1 in Sec. 21-3s-14w is drilling at 6447 ft.

Inglewood Try Redrills

Basin Oil Co. is preparing to mill window and redrill its Inglewood Comm. No. 7-1 in Sec. 28-2s-14w at Potrero, after recovering drill pipe fish to 9526 ft. Cement plug has been placed on top of pipe. Total depth is 11,123 ft., with 7-in. casing set at 9857 ft. The project was in the completion stage at a plugged back depth of 10,711 ft., when drill pipe stuck.

Beach City Well Starts

Bolton Oil Co. of Santa Ana is ready to drill Houston No. 9 near 17th street and Orange avenue at Huntington Beach. J. E. V. Oil Co. is planning to drill a well in the beach city at the northwest corner of 16th street and Palm avenue. 3-J Oil Operators have taken over the C. K. Baldwin Schroeder No. 1 at 18th and Orange, with the intention of redrilling the well.

Puente Wildcat Installs Pump

Pump has been installed and Hugh Alan Bardeen is now ready to put on production Lautenbach No. 1 wildcat in the Puente area in Sec. 10-2s-10w, Los Angeles County. Original bottom is 2009 ft. and plugged back depth 1569 ft.

Wheeler Ridge Adds Producer

By successfully completing KCL-Coal Canyon No. 72-29 in Sec. 29-11n-20w at 1176 ft. for 9 barrels an hour, Richfield Oil Corp. has added considerable interest to the Wheeler Ridge area. Location is a mile west of Standard of California's Wheeler Ridge discovery well. Richfield has a number of other wells going in the area. The company's KCL-Lakeside No. 67-24 in Sec. 24-31s-25e near the Paloma field is grading roads.

South Dome Well Working

Standard of California is conditioning drilling mud for S. F. & F. L. No. 4-2 test well in Sec. 12-25s-19e in the South Dome area of Kettleman Hills. Van Sicklen No. 45 wildcat in Sec. 26-27s-21e at Lost Hills is testing water shut off. Total depth is 8279 ft., with casing set at 7932 ft. At Arvin, Tupman No. 2 in Sec. 22-21s-29e is washing perforations at a number of intervals. Original bottom was 7567 ft. and plugged back depth is 7505 ft. Whipstock has been set to redrill K.C.L. No. 1-6 in Sec. 13-28s-28e. Original bottom was 2425 ft., with first redrill job going to 2360 ft.

McKittrick Well Completes

T. K. P. Oil Co. is completing McNeil No. 1 test in Sec. 18-30s-22e in the McKittrick area. Oil sand was topped at 1055 ft. in going to a bottom of 1193 ft. Casing is set at 1055 ft. General Petroleum Corp.'s Ninkovitch No. 62-9 in Sec. 9-30s-21e is drilling at 10,475 ft. In Sec. 10-30s-22e, Signal Oil and Gas Co. is fishing drill pipe stuck in Signal Pike No. 1 explorer. Present depth is 6331 ft.

Cantua Creek Wildcat Deeper

In Sec. 11-16s-14e in the Cantua Creek area in Fresno County, Pacific Western Oil Corp. is progressing with the drill below 2650 ft. with White No. B-65.

Pottenger Test Spuds

Texas Company has spudded and is drilling ahead at 725 ft. with Universal No. 1 wildcat in Sec. 19-30s-21e in the Pottenger area in Kern County. Texaco has written off Hogan-CCMO No. 1 test in Sec. 4-31s-29e at Mountain View. The hole was carried to 7521 ft. before operations were called off at that location.

E. O. Kartinen, J. T. Nicholson, Robert Kettenburg and Keith Doig made up the panel of speakers at the meeting of the Los Angeles chapter of the A.P.I. at Long Beach.

When E. E. (Pod) Calkins, electrician leadman for General Petroleum at Santa Fe Springs, goes hunting, he uses nothing more or less than a bow and arrows of the right type. He has won many awards for his prowess in the field of archery. He makes his own bow and arrows from osage orange and yew wood.

Officers of the speakers club at Union Oil's Los Angeles refinery have handed their titles and gavels over to a new set of leaders. The big three in oildom's oratory during 1947 were Paul Doyle, Harold Bourgeoise and John Pownall. Their successors are Ed Welton, Frank Walker and Gale Peterson.

Don E. Gilman, executive vice president, and John M. Pierce, economist for Western Oil and Gas Association were in attendance at the meeting of trade association executives in San Francisco. The meeting was sponsored by the California State Chamber of Commerce to consider state finance problems.

"The Occurrence of Optical and Sub-Optical Quartz in California and Western Nevada" was the topic of an address by Dr. Cordelll Durrell at the meeting of the Industrial Minerals Division at the Southern California Gas Co. auditorium. Dr. Durrell is chairman of the department of geology, University of California at Los Angeles.